TC
425
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2002
c.1
LIBRARY

SUBSTANTIAL COMPLETION NOTIFICATION

Guadalupe Creek Restoration Project from Almaden Expressway to Masson Dam

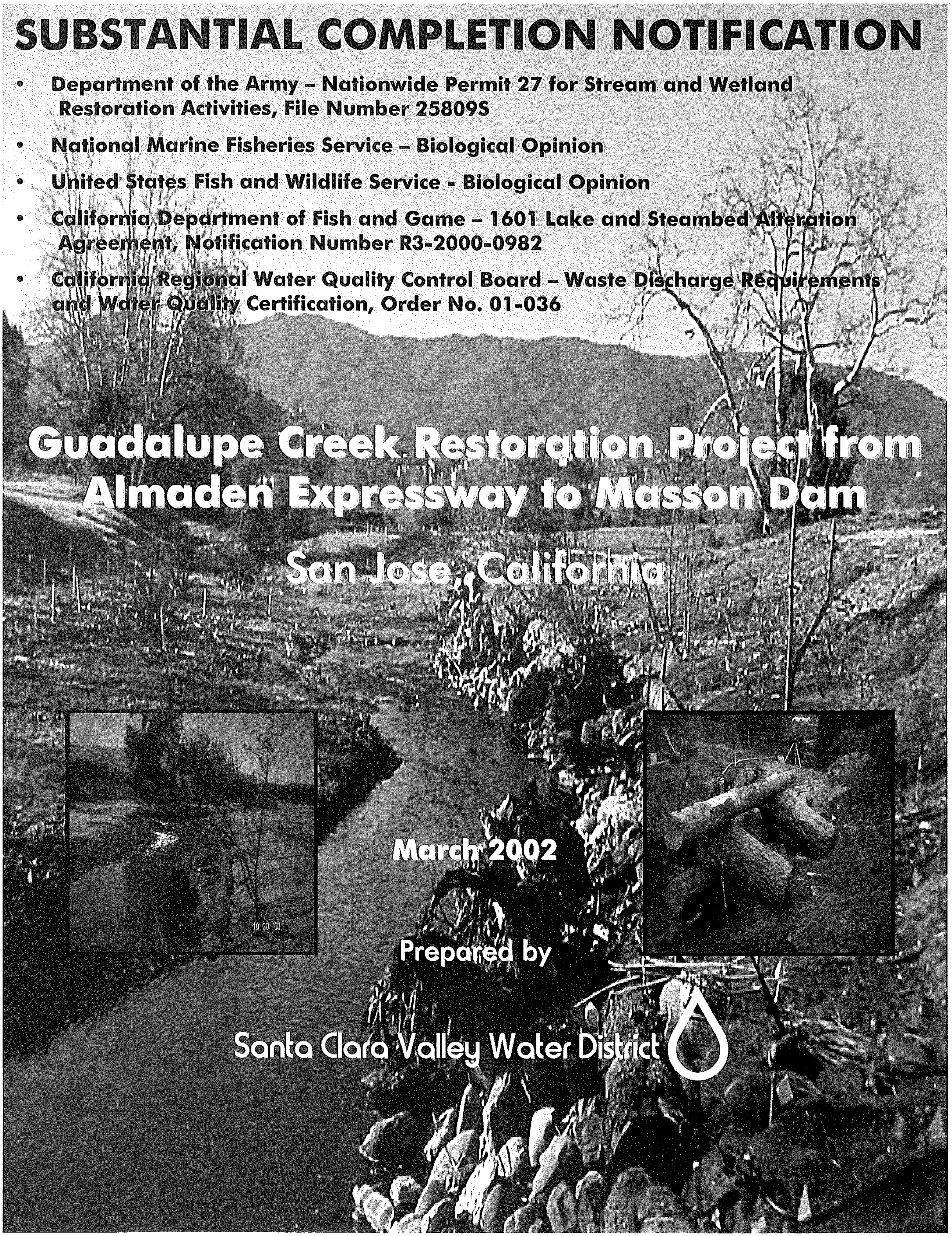
San Jose,
California

Santa Clara Valley Water District

March 2002

SUBSTANTIAL COMPLETION NOTIFICATION

- **Department of the Army – Nationwide Permit 27 for Stream and Wetland Restoration Activities, File Number 25809S**
- **National Marine Fisheries Service – Biological Opinion**
- **United States Fish and Wildlife Service - Biological Opinion**
- **California Department of Fish and Game – 1601 Lake and Steambed Alteration Agreement, Notification Number R3-2000-0982**
- **California Regional Water Quality Control Board – Waste Discharge Requirements and Water Quality Certification, Order No. 01-036**



Guadalupe Creek Restoration Project from Almaden Expressway to Masson Dam

San Jose, California

March 2002

Prepared by

Santa Clara Valley Water District

TC425G82S82002c.1

Santa Clara Valley
Water District

March 6, 2002

Mr. Dale Bowyer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Substantial Completion of the Guadalupe Creek Restoration Project, between Almaden Expressway and Masson Dam, Santa Clara County Waste Discharge Requirements and Water Quality Certification; Order 01-036 (Order)

Dear Mr. Bowyer:

This technical letter report serves as notification of the substantial completion of the Guadalupe Creek Restoration Project (Restoration Project) as required by Provision 6c of the subject Order. The report also addresses post construction reporting requirements established by the Department of Fish and Game's 1601 Lake and Streambed Alteration Agreement; Notification Number R3-2000-0982 (1601 Permit), by the Department of the Army's Nationwide Permit 27 for Stream and Wetland Restoration Activities, pursuant to Section 404 of the Clean Water Act (404 Permit), and by the Biological Opinion issued by the National Marine Fisheries Service (NMFS).

Provision 6a of the Order requires that the Restoration Project be substantially completed prior to the initiation of in-channel construction activities on the Downtown Guadalupe River reaches of the project.

The following information is appended hereto in support of this notification:

Appendix A – As-built Project Drawings
Appendix B – Pre-construction, Progress, and Post-installation Photographs
Appendix C – Dewatering and Fish Relocation Report
Appendix D – Hazmat Disposition Report
Appendix E – Self Monitoring Plan Documentation
Appendix F – Stormwater Pollution Prevention Plan
Appendix G – Health and Safety Plan
Appendix H – Permits
Appendix I – Final Inspection Report and Adaptive Management Recommendations

If you have any questions regarding this submittal, please feel free to contact Mr. Alberto Gurevich at 408-265-2607, extension 2018, or myself at extension 2328.

Sincerely,

David J. Chesterman

David J. Chesterman
Guadalupe Watershed Manager
Santa Clara Valley Water District

DJC:pys

cc: Mr. Steve Schoenberg
U.S. Fish & Wildlife Service
2800 Cottage Way, Suite W2605
Sacramento, CA 95825-1888

Mr. Carl Wilcox
Environmental Services Supervisor
California Department of Fish & Game
7329 Silverado Trail
Napa, CA 94558-9438

Ms. Phelicia Gomes
Department of the Army
U.S. Army Engineer District, San Francisco
333 Market Street, CESPN-OR-R
San Francisco, CA 94105-2197

Mr. Gary Stern
National Marines Fisheries Service
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404

Mr. Richard McMurtry
Regional Water Quality Control Board
c/o State Permit Assistance Center
East Wing, 6th Floor
70 West Hedding
San Jose, CA 95110-1705

Mr. Dave VanRynd
US Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814

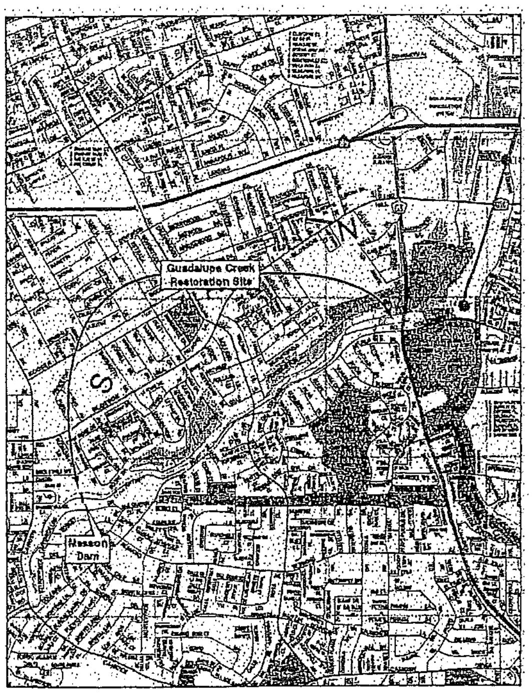
D. Chesterman, A. Gurevich, T. Neudorf, D. Mody, T. Ndah, PM File 301525

APPENDIX A

- Guadalupe Creek Restoration Project As-builts

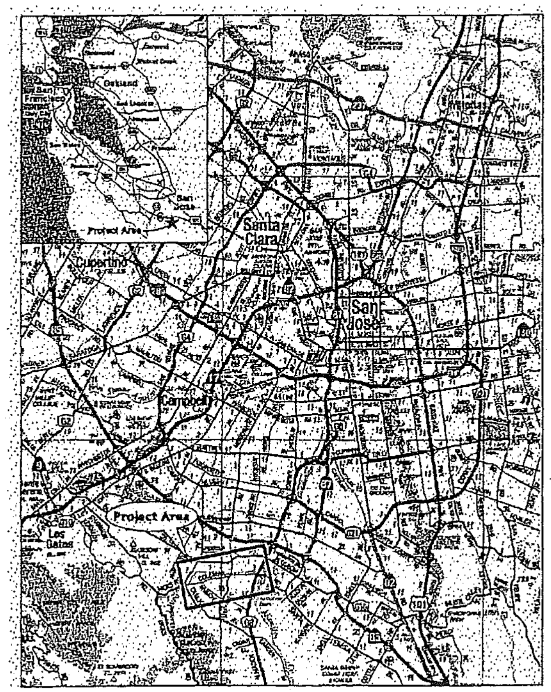
SHEET INDEX

SHEET #	SHEET NAME
	COVER SHEET
GEN-1	SITE ACCESS, HAUL ROUTES, STAGING AREAS, & GENERAL NOTES
GEN-2	LEGEND & SURVEY CONTROL DATA
G-1	GRADING PLAN
G-2	GRADING PLAN
G-3	GRADING PLAN
G-4	GRADING PLAN
G-5	GRADING PLAN
G-6	GRADING PLAN
G-7	GRADING PLAN
G-8	GRADING PLAN
G-9	GRADING PLAN
G-10	GRADING PLAN
G-11	GRADING PLAN
G-12	GRADING PLAN
G-13	GRADING PLAN
G-14	GRADING PLAN
G-15	GRADING PLAN
G-16	GRADING PLAN
I-1	IRRIGATION PLAN
P-1	PLANTING PLAN
P-2	PLANTING PLAN
P-3	PLANTING PLAN
P-4	PLANTING PLAN
P-5	PLANTING PLAN
P-6	PLANTING PLAN
P-7	PLANTING PLAN
P-8	PLANTING PLAN
P-9	PLANTING PLAN
P-10	PLANTING PLAN
P-11	PLANTING PLAN
P-12	PLANTING PLAN
P-13	PLANTING PLAN
P-14	PLANTING PLAN
P-15	PLANTING MATRICES
D-1	INSTREAM STRUCTURES DETAILS
D-2	INSTREAM STRUCTURES DETAILS
D-3	INSTREAM STRUCTURES DETAILS
D-4	INSTREAM STRUCUTRES DETAILS
D-5	INSTREAM STRUCTURES DETAILS
D-6	INSTREAM STRUCTURES DETAILS
D-7	PLANTING DETAILS
D-8	PLANTING DETAILS
D-9	PLANTING DETAILS
D-10	INFRASTRUCTURE DETAILS
D-11	CHANNEL REALIGNMENT DETAILS AND SECTIONS
D-12	CHANNEL REALIGNMENT SECTIONS
D-13	BANK PROTECTION DETAILS AND LEVEE SECTION DETAIL
D-14	BANK PROTECTION SECTIONS
D-15	MIXING STRUCTURE DETAILS
D-16	JUNCTION STRUCTURE DETAILS
LC-1	LEVEE CONSTRUCTION PLAN AND PROFILE



NOT TO SCALE

VICINITY MAP



NOT TO SCALE

LOCATION MAP

PROJECT LOCATION

MAP AND CONSTRUCTION PLAN

FOR

GUADALUPE CREEK RESTORATION PROJECT

PROJECT NO. 301525

APRIL 16, 2001

PROJECT APPROVAL:

*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** *Dave J. Chesterman* ***

GUADALUPE WATERSHED MANAGER
WATERSHED MANAGEMENT DIVISION

ACCEPTED BY DISTRICT:

*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** *Al M. Gurevich* ***

SENIOR PROJECT MANAGER
WATERSHED MANAGEMENT DIVISION

DATE: *** 4/16/01 ***

Santa Clara Valley Water District

PROJECT PREPARED BY:

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE __________

ENGINEERING APPROVAL:

ORIGINAL CONTRACT DOCUMENT STAMPED BY

John Zanzi

*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** *John Zanzi* ***

JOHN ZANZI
JONES & STOKES
CALIFORNIA LICENSED LANDSCAPE ARCHITECT NO. 2933

DATE: *** 4/13/01 ***

ORIGINAL CONTRACT DOCUMENT STAMPED BY

Edward E.Wallace

*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** *Edward E. Wallace* ***

ED WALLACE RCE NO. 32301
NORTHWEST HYDRAULIC CONSULTANTS

DATE: *** 4/13/01 ***

Plot Date: Wed 27 Feb 2002 - 5:39pm
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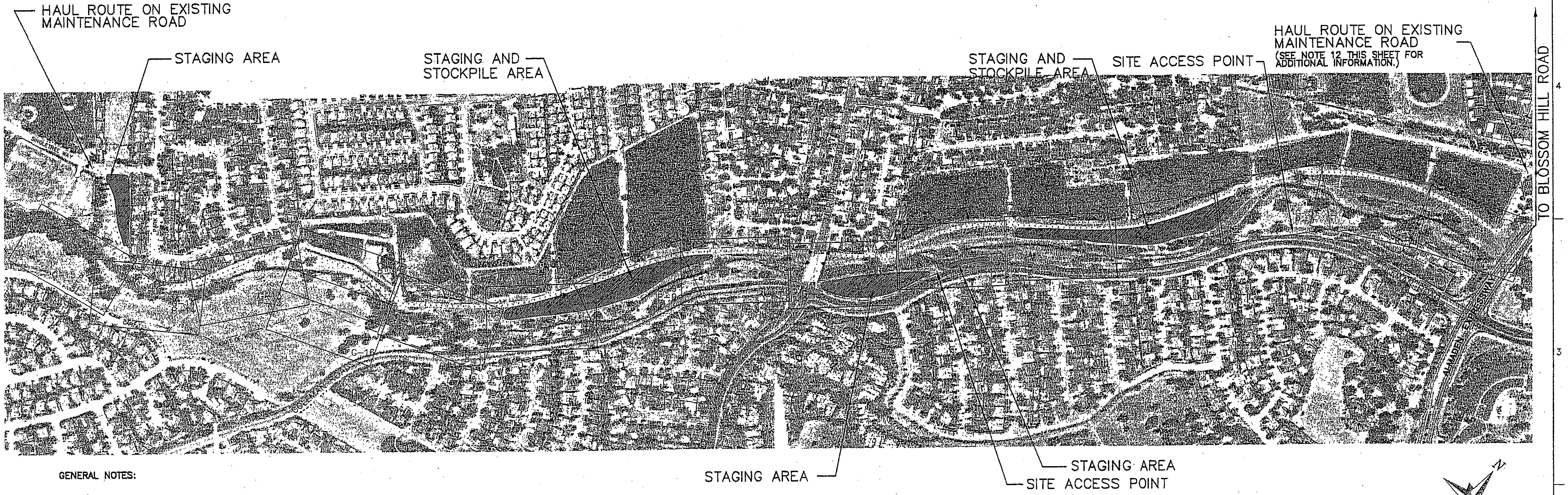

HAUL ROUTE ON EXISTING MAINTENANCE ROAD
STAGING AREA
STAGING AND STOCKPILE AREA
STAGING AND STOCKPILE AREA
SITE ACCESS POINT
HAUL ROUTE ON EXISTING MAINTENANCE ROAD (SEE NOTE 12 THIS SHEET FOR ADDITIONAL INFORMATION.)
TO BLOSSOM HILL ROAD
G-16
ALMADEN EXPRESSWAY
STAGING AREA
STAGING AREA
SITE ACCESS POINT

GENERAL NOTES:

1. THESE CONSTRUCTION DOCUMENTS HAVE BEEN PREPARED USING THE BEST AVAILABLE INFORMATION WITHIN ACCEPTED INDUSTRY STANDARDS.

2. THE CONTRACTOR WILL CONTACT THE ENGINEER IMMEDIATELY UPON FINDING ANY FIELD CONDITIONS THAT WOULD CONFLICT WITH THE INFORMATION INDICATED ON THESE DRAWINGS. ALL FIELD ADJUSTMENTS MUST BE APPROVED BY THE ENGINEER BEFORE CONSTRUCTION OF SAID ADJUSTMENTS; FAILURE TO DO SO WILL RESULT IN THE CONTRACTOR ASSUMING FULL RESPONSIBILITY FOR ANY REQUIRED REVISIONS OR FIELD MODIFICATIONS, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST.

3. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SCHEDULING OF CONSTRUCTION OPERATIONS WITH CONSTRUCTION OPERATIONS OF OTHERS WORKING ON OR NEAR THE PROJECT SITE.

4. THE CONTRACTOR WILL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION OPERATIONS. TO FIELD-LOCATE ALL EXISTING UTILITIES, THE CONTRACTOR WILL CALL ALL GOVERNING AGENCIES AND UNDERGROUND SERVICE ALERT (U.S.A.) AT 1-(800)-642-2444.

5. THE CONSTRUCTION STAGING AREAS WILL BE AT THE LOCATIONS SHOWN ON THE DRAWINGS, AND IN OTHER AREAS APPROVED BY THE ENGINEER. ACCESS AND HAUL ROUTES WILL BE LIMITED TO THOSE SHOWN IN THE DRAWINGS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

6. THE CONTRACTOR WILL BE RESPONSIBLE FOR TAKING APPROPRIATE PRECAUTIONS TO MINIMIZE THE CHANCE OF FIRE AT THE PROJECT SITE. THE CONTRACTOR WILL USE EXISTING DIRT ROADS, OR OTHER AREAS WITH WEEDS AND OTHER PLANT GROWTH WITH A HEIGHT OF LESS THAN 6 INCHES FOR CONSTRUCTION ACCESS. EACH VEHICLE WILL BE EQUIPPED WITH A MINIMUM OF ONE FIRE EXTINGUISHER AND ONE SHOVEL. GASOLINE WILL BE STORED IN SEALED METAL CANS LABELED "FLAMMABLE". NO BURNING WILL BE PERMITTED AT THE PROJECT SITE. VEHICLE AND EQUIPMENT PARKING WILL BE LIMITED TO THE CONSTRUCTION STAGING AREAS PER THE LOCATION INDICATED ON THE DRAWINGS. THE CONTRACTOR WILL SCRAPE AND CLEAN THE LIMITS OF THE CONSTRUCTION STAGING AREAS TO BE VEGETATION FREE ACCORDING TO THE ENGINEER'S DIRECTION. THROUGHOUT THE CONTRACT PERIOD, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION STAGING AREAS FREE OF WEEDS AND OTHER PLANT GROWTH OF A HEIGHT GREATER THAN 6 INCHES. FOR THIS CONTRACT, THE FIRE DANGER SEASON IS DEFINED AS EXTENDING FROM MAY 1 TO OCTOBER 31 OF EACH YEAR COVERED BY THIS CONTRACT, AND AT ANY OTHER TIMES IF CONDITIONS WARRANT AS DETERMINED BY THE ENGINEER.

7. ALL LUBRICATION, REFUELING, OR MAINTENANCE OF EARTHMOVING OR OTHER CONSTRUCTION VEHICLES WILL BE DONE WITHIN APPROVED CONSTRUCTION STAGING AREAS.

8. THE CONTRACTOR WILL BE RESPONSIBLE FOR KEEPING THE PROJECT SITE IN A NEAT AND ORDERLY CONDITION, FREE OF RUBBISH AND DEBRIS, AT ALL TIMES.

9. THE CONTRACTOR WILL SPRAY ALL UNPAVED CONSTRUCTION AREAS WITH WATER AT LEAST THREE TIMES EACH DAY WITHIN AREAS BEING GRADED, EXCAVATED OR USED AS CONSTRUCTION HAUL ROADS; SPRAYING WILL OCCUR MORE FREQUENTLY ON HOT AND WINDY DAYS.

10. ELEVATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29). BASELINE AND CONTROL DATA ARE SHOWN ON SHEET GEN-2. ALL BENCH MARKS AND MONUMENTS SHOWN ON THE DRAWINGS MUST BE PROTECTED AND PRESERVED THROUGHOUT THE CONTRACT PERIOD.

11. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON AERIAL PHOTOGRAPHY DATED SEPTEMBER 22, 1999, AND FIELD SURVEYS DATED MAY 29TH, 2000. ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION MAY VARY FROM THOSE SHOWN.

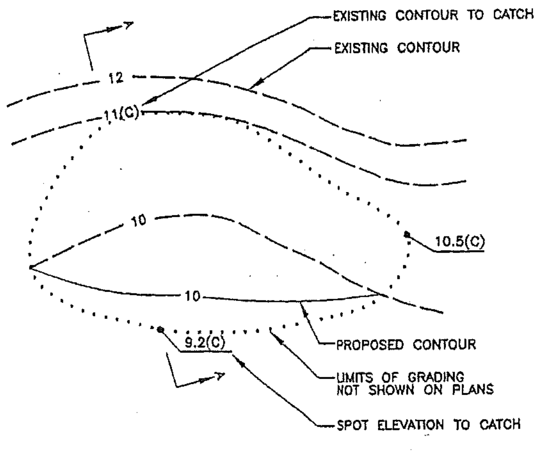
12. THE DOWNSTREAM END OF THE PROJECT SITE IS ACCESSIBLE BY WAY OF A MAINTENANCE ROAD AND GATE LOCATED OFF ALMADEN EXPRESSWAY, BETWEEN COLEMAN ROAD (SOUTH) AND BLOSSOM HILL ROAD (NORTH), APPROXIMATELY 500 FEET NORTH OF THE CREEK.

13. SITE ACCESS POINTS WILL BE USED FOR EQUIPMENT ACCESS TO SPECIFIC AREAS OF WORK. GENERAL DELIVERY OF MATERIALS TO THE SITE WILL NOT BE PERMITTED THROUGH THESE POINTS.

14. ACCESS THROUGH GATES ON THE MAINTENANCE ROAD AT MERIDIAN AVENUE WILL BE LIMITED TO PICK-UP TRUCKS AND PASSENGER VEHICLES.

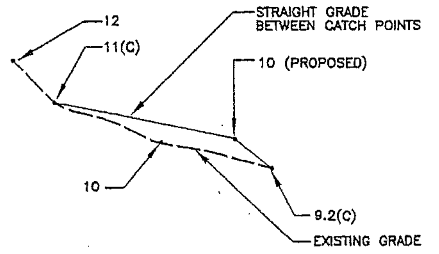
15. THE CONTRACTOR WILL BE RESPONSIBLE FOR SITE SECURITY FOR THE DURATION OF THE CONTRACT PERIOD; REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

GRADING PLAN LEGEND



PLAN, TYPICAL EXAMPLE

NTS



SECTION A-A

NTS

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE __________

Plot Date: Wed 27 Feb 2002 - 5:30pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_GEN-01-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN BH
DRAWN BH
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** *Al M. Gurevich* ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

SITE ACCESS, HAUL ROUTES, STAGING AREAS, & GENERAL NOTES

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE 1"=280'

SHEET AB
GEN-1
2 OF 52

LEGEND

SYMBOL	DESCRIPTION
△	SURVEY MONUMENT
253.7	AERIAL SURVEY SPOT ELEVATION
+	FIELD SURVEYED SPOT ELEVATION
— —	INTERMEDIATE CONTOUR (EXISTING)
— —	INDEX CONTOUR (EXISTING)
———	PROPOSED CONTOUR
231.5	PROPOSED SPOT ELEVATION
231.5(C) 234.0(C)	GRADING CATCH POINT
68+00	BASE LINE
—X—	VEGETATION PRESERVATION FENCE
⬡	HIMALAYAN BLACKBERRY REMOVAL TREATMENT A– (SEE SPECIFICATIONS)
⬡	HIMALAYAN BLACKBERRY REMOVAL TREATMENT B– (SEE SPECIFICATIONS)
—o—	EXISTING CHAIN–LINK FENCE
—E—	EXISTING ELECTRIC UTILITY LINE
—W—	EXISTING CITY WATER MAIN
▪ | ▪ | ▪	LIMIT OF WORK
—o—o—	PROPOSED CHAIN–LINK FENCE
POST	POST
1 D–6	DETAIL OR SECTION CALLOUT
▓	SOIL LOOSENING AND TOPSOIL FILL AREAS (REFER TO PLANTING PLANS, SHEETS P–1 TO P–14)
▓	SOIL LOOSENING ONLY AREAS (REFER TO PLANTING PLANS, SHEETS P–1 TO P–14)
▨	BENCH CONSTRUCTION AREA
△	NEST BOX (REFER TO PLANTING PLANS, SHEETS P–1 TO P–14)
⊗	LOCATION OF PIEZOMETER TO BE REMOVED
▮	REVEGETATION AND HEALTH AND SAFETY (PERMANENT) SIGNS; REFER TO PLANTING PLANS, SHEETS P–1 TO P–14; REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION; SEE DETAIL 3/D–7
1 D–14	CROSS SECTION LOCATION

INSTREAM STRUCTURE LEGEND

SYMBOL	DESCRIPTION	DETAIL
	STREAM BOULDER PLACEMENT	1/D–1
∘∘∘∘∘∘∘∘	WATERS EDGE TREATMENT	3/D–1
	STREAMBANK INSTREAM WOODY MATERIAL (IWM)	4/D–1
	LOG STREAM BARB	5/D–1
	BAR IWM	1/D–2
	OFF–BANK LOG COVER	2/D–2
	OFF–BANK BRANCH COVER	3/D–2
	ROOTWAD BANK STRUCTURE–TYPE 1	1/D–3
	ROOTWAD BANK STRUCTURE–TYPE 2	2/D–3
	OVERBANK WOODY MATERIAL (OWM)	3/D–3
▼	WING DEFLECTOR	4/D–3
├─┤	LOG TOE BANK STRUCTURE	1/D–4
	ROCK STREAM BARB	3/D–4
	V–WEIR	1/D–5
	CROSS–WEIR	2/D–5
	BURIED GROIN	3/D–5
	DEBRIS JAM	1/D–6
	CRIB WALL	3/D–6
▨	ROCK TOE	1/D–13

BASE LINE DATA

STATION	BEARING	LENGTH	DELTA	RADIUS
0+00				
	N82°32'13"W	175.51'		
B.C.1+75.51				
		1361.60'	51°44'58"	1507.53'
E.C.15+37.11				
	S40°58'50"W	455.77'		
B.C.19+92.88				
		597.84'	23°58'26"	1428.80'
E.C.25+90.72				
	S65°48'28"W	420.34'		
B.C.30+11.06				
		496.92'	27°18'45"	1042.44'
E.C.35+07.98				
	S35°58'24"W	162.86'		
B.C.36+70.84				
		164.75'	29°25'53"	320.74'
E.C.38+35.59				
	S64°54'12"W	788.34'		
B.C.46+23.93				
		445.47'	16°6'28"	1584.54'
E.C.50+69.40				
	S43°33'52"W	532.84'		
B.C.56+02.24				
		571.14'	17°43'13"	1846.70'
E.C.61+73.38				
	S63°48'10"W	315.44'		
B.C.64+88.82				
		204.04'	38°39'54"	302.37'
E.C.66+92.86				
	N77°8'15"W	120.33'		
B.C.68+13.19				
		185.06'	23°37'5"	448.95'
E.C.69+98.25				
	S80°51'55"W	271.51'		
B.C.72+69.76				
		65.77'	26°15'6"	143.54'
E.C.73+35.53				
	S40°35'5"W	344.69'		
B.C.76+80.22				
		337.62'	24°46'29"	780.80'
E.C.80+17.84 B.C.80+17.84				
		351.09'	68°54'23"	291.93'
E.C.83+68.93				

ON–SITE CONTROL DATA

DATA RECEIVED 12–2–99 FROM SCVWD, SURVEYED BY SCVWD
GPS WAS USED TO TIE THESE CONTROL POINTS TO THE SCVWD CONTROL NETWORK
HORIZONTAL: NAD83, US SURVEY FEET
VERTICAL: NGVD29, US SURVEY FEET

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
2001	1914222.73	6161387.12	201.77	#4 REBAR WITH ALUMINUM CAP "NHC 2001"
2002	1914285.85	6160977.22	203.61	#4 REBAR WITH ALUMINUM CAP "NHC 2002"
2003	1914167.63	6160519.40	205.37	#4 REBAR WITH ALUMINUM CAP "NHC 2003"
2004	1913984.43	6160142.03	207.46	#4 REBAR WITH ALUMINUM CAP "NHC 2004"
2005	1913662.80	6159854.98	209.80	#4 REBAR WITH ALUMINUM CAP "NHC 2005"
2006	1913356.06	6159569.05	213.74	#4 REBAR WITH ALUMINUM CAP "NHC 2006"
2007	1913104.94	6159153.00	217.12	#4 REBAR WITH ALUMINUM CAP "NHC 2007"
2008	1912911.40	6158724.99	220.06	#4 REBAR WITH ALUMINUM CAP "NHC 2008"
2009	1912716.81	6158517.11	221.82	#4 REBAR WITH ALUMINUM CAP "NHC 2009"
2010	1912496.93	6158339.06	222.96	#4 REBAR WITH ALUMINUM CAP "NHC 2010"
2011	1912416.02	6158204.30	224.25	#4 REBAR WITH ALUMINUM CAP "NHC 2011"
2012	1912219.49	6157747.39	227.86	#4 REBAR WITH ALUMINUM CAP "NHC 2012"
2013	1912325.11	6157975.13	227.61	AERIAL FX, ON NORTH END OF MERIDAN BRIDGE
2014	1912028.45	6157421.49	230.36	#4 REBAR WITH ALUMINUM CAP "NHC 2014"
2015	1911834.09	6157167.33	231.93	#4 REBAR WITH ALUMINUM CAP "NHC 2015"
2016	1911597.74	6156939.23	233.82	#4 REBAR WITH ALUMINUM CAP "NHC 2016"
2017	1911346.78	6156699.37	236.41	#4 REBAR WITH ALUMINUM CAP "NHC 2017"
2018	1911160.88	6156450.63	240.44	#4 REBAR WITH ALUMINUM CAP "NHC 2018"
2019	1911045.79	6156229.16	242.91	#4 REBAR WITH ALUMINUM CAP "NHC 2019"
2020	1911005.29	6156142.15	244.06	#4 REBAR WITH ALUMINUM CAP "NHC 2020"
2021	1910980.75	6155814.50	243.67	DESTROYED
2022	1910959.42	6155534.84	245.86	#4 REBAR WITH ALUMINUM CAP "NHC 2022"
2023	1910886.38	6155220.56	247.80	#4 REBAR WITH ALUMINUM CAP "NHC 2023"
2024	1910602.24	6155006.07	248.67	#4 REBAR WITH ALUMINUM CAP "NHC 2024"
2025	1910452.89	6154847.14	252.40	#4 REBAR WITH ALUMINUM CAP "NHC 2025"
2026	1910362.61	6154662.14	254.79	#4 REBAR WITH ALUMINUM CAP "NHC 2026"
2027	1910434.94	6154502.45	256.81	#4 REBAR WITH ALUMINUM CAP "NHC 2027"

TRANSPLANT AND SALVAGE LEGEND

SYMBOL	DESCRIPTION
S1	FINE TEXTURED, WOODY MATERIAL FOR USE ON BAR IWM
S2	TREES FOR USE, IF SUITABLE, ON INSTREAM STRUCTURES
S3	SHRUBS/SMALL TREES FOR USE, IF SUITABLE, WITH OFF–BANK BRANCH COVER
T	TRANSPLANTS

OFF–SITE CONTROL DATA

POINT #	NORTH	EAST	ELEV.	DESC.
100	1914828.55	6161008.08	198.34	BRASS PIN MON
101	1913755.25	6161444.93	202.20	FD. PK NAIL
102	1912047.83	6159050.17	217.07	SET PK NAIL
103	1911230.07	6156990.53	239.08	SET MAG NAIL
104	1909617.25	6154716.49	253.44	SET MAG NAIL
105	1911161.71	6154001.72	273.31	SET LARGE NAIL
106	1912503.32	6156235.17	240.01	SET MAG NAIL
107	1913681.29	6158117.12	215.64	SET MAG NAIL

HORIZONTAL DATUM : NAD83
VERTICAL DATUM: NGVD29, US FEET

ABBREVIATIONS

ABBREV.	DESCRIPTION
B.C.	BEGINNING OF CURVE
CMP	CORRUGATED METAL PIPE
DESC.	DESCRIPTION
E.C.	END OF CURVE
ELEV.	ELEVATION
F.D.	FOUND
FL	FLOW LINE
IWM	INSTREAM WOODY MATERIAL
LF	LINEAR FEET
MAG NAIL	MAGNESIUM NAIL
MIN	MINIMUM
MON	MONUMENT
NAD	NORTH AMERICAN DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
OWM	OVERBANK WOODY MATERIAL
RCP	REINFORCED CONCRETE PIPE

AS BUILT
PROJECT SUPERVISOR
BY ____________
DATE ____________

REV	DESCRIPTION	DATE	APPR
AB	AS–BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691–3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	BH
DRAWN	BH
CHECKED	JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

LEGEND & SURVEY CONTROL DATA

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
NONE

SHEET AB
GEN–2
3 OF 52

Plot Date: Wed 27 Feb 2002 – 5:35pm
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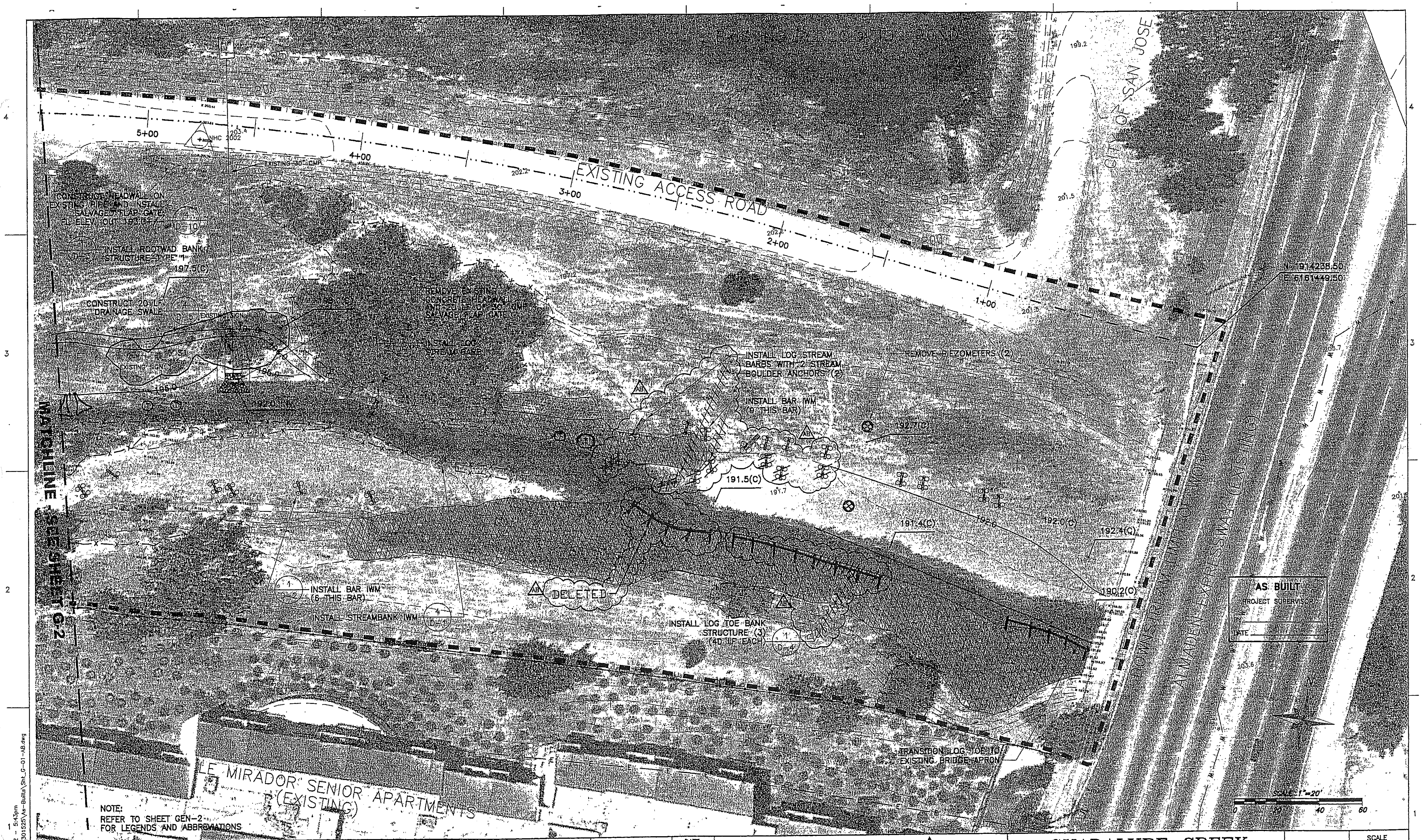
EXISTING ACCESS ROAD
5+00
4+00
3+00
2+00
1+00
NHC 2002
EXISTING 30" CMP
CONSTRUCT HEADWALL ON EXISTING PIPE AND INSTALL SALVAGED FLAP GATE FL ELEV. OUT 193.0+/-
4 / D-10
INSTALL ROOTWAD BANK STRUCTURE TYPE "1"
1 / D-3
197.5(C)
CONSTRUCT 20 LF DRAINAGE SWALE
4 / D-5
EXISTING SIGN
EXISTING SIGN
195.0
192.0 INV
REMOVE EXISTING CONCRETE HEADWALL AND 20 LF OF 30" CMP SALVAGE FLAP GATE
INSTALL LOG STREAM BARB
INSTALL LOG STREAM BARBS WITH 2 STREAM BOULDER ANCHORS (2)
INSTALL BAR IWM (9 THIS BAR)
REMOVE PIEZOMETERS (2)
192.7(C)
191.5(C)
191.7
191.4(C)
192.0(C)
192.4(C)
190.2(C)
N. 1914238.50
E. 6161449.50
INSTALL BAR IWM (6 THIS BAR)
1 / D-2
INSTALL STREAMBANK IWM
4 / D-1
AB
DELETED
INSTALL LOG TOE BANK STRUCTURE (3) (40 LF EACH)
1 / D-4
TRANSITION LOG TOE TO EXISTING BRIDGE APRON
DOWNSTREAM LIMIT OF WORK
ALMADEN EXPRESSWAY (EXISTING)
CITY OF SAN JOSE
MATCHLINE - SEE SHEET G-2
LE MIRADOR SENIOR APARTMENTS (EXISTING)
SCALE 1"=20'
0 20 40 60
AS BUILT
PROJECT SUPERVISOR
BY
DATE

NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	EW/JH
DRAWN	BH/BK/JS
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-1
4 OF 52

Plot Date: Wed 27 Feb 2002 - 5:43pm
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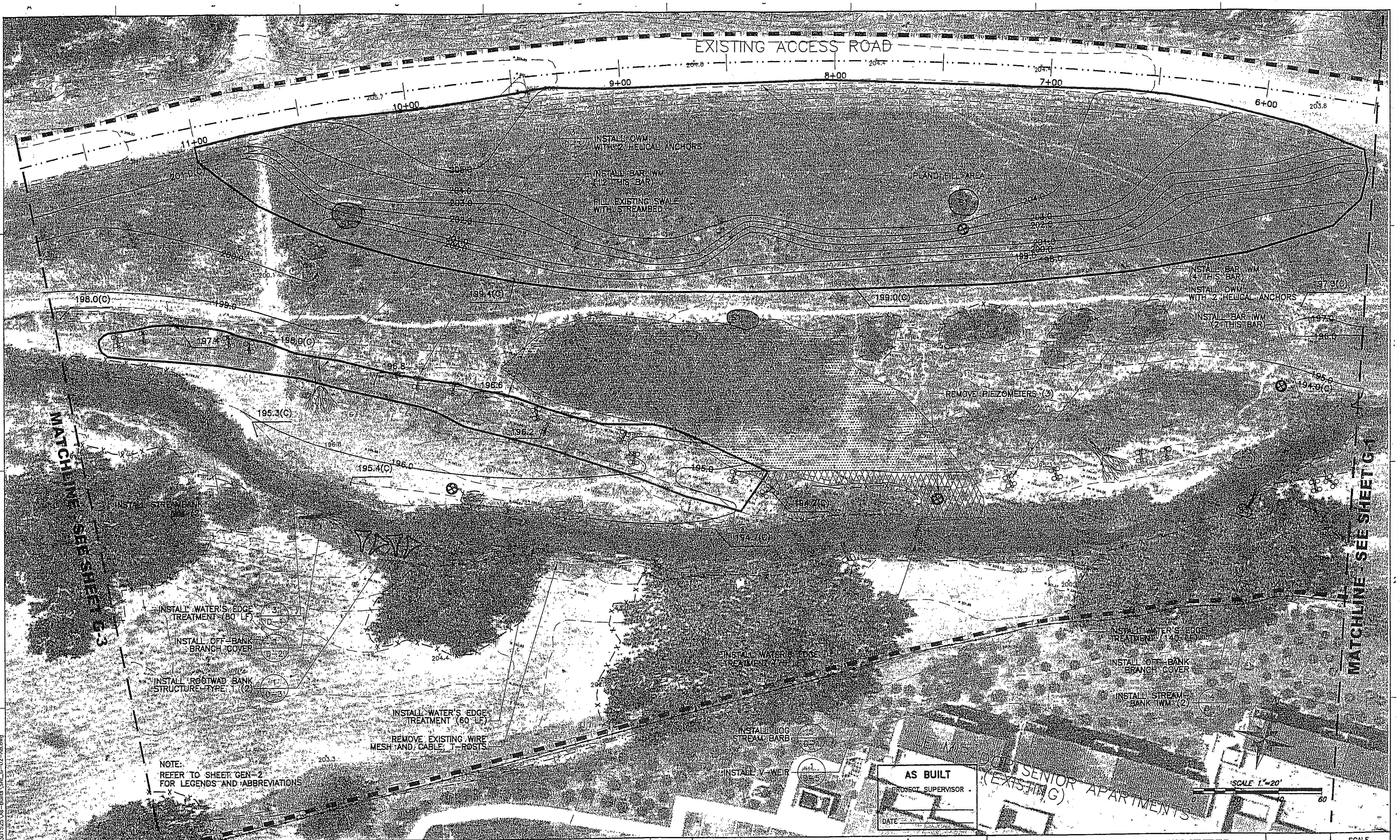
EXISTING ACCESS ROAD
11+00
10+00
9+00
8+00
7+00
6+00
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (1 THIS BAR)
FILL EXISTING SWALE WITH STREAMBED
UPLAND FILL AREA
INSTALL BAR IWM (4 THIS BAR)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
198.0(C)
199.4(C)
199.0(C)
197.3(C)
196.0(C)
196.8
196.6
196.2
195.3(C)
195.4(C)
194.7(C)
194.9(C)
REMOVE PIEZOMETERS (3)
MATCHLINE SEE SHEET G-3
MATCHLINE SEE SHEET G-1
INSTALL STREAMBANK
INSTALL WATER'S EDGE TREATMENT (80 LF)
3 / D-1
INSTALL OFF-BANK BRANCH COVER
3 / D-2
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 (2)
1 / D-3
INSTALL WATER'S EDGE TREATMENT (60 LF)
REMOVE EXISTING WIRE MESH AND CABLE, T-POSTS
NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS
INSTALL WATER'S EDGE TREATMENT
INSTALL LOG STREAM BARB
5 / D-1
INSTALL V-WEIR
1 / D-5
INSTALL WATER'S EDGE TREATMENT (140 LF)
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM-BANK IWM (2)
4 / D-1
LE MIRADOR SENIOR APARTMENTS (EXISTING)
SCALE 1"=20'
0
20
40
60

AS BUILT
PROJECT SUPERVISOR
BY
DATE

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 Industrial boulevard, suite 100c
west sacramento, california 95691-3436

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-2
5 OF 52

Plot Date: Wed 27 Feb 2002 - 5:47pm
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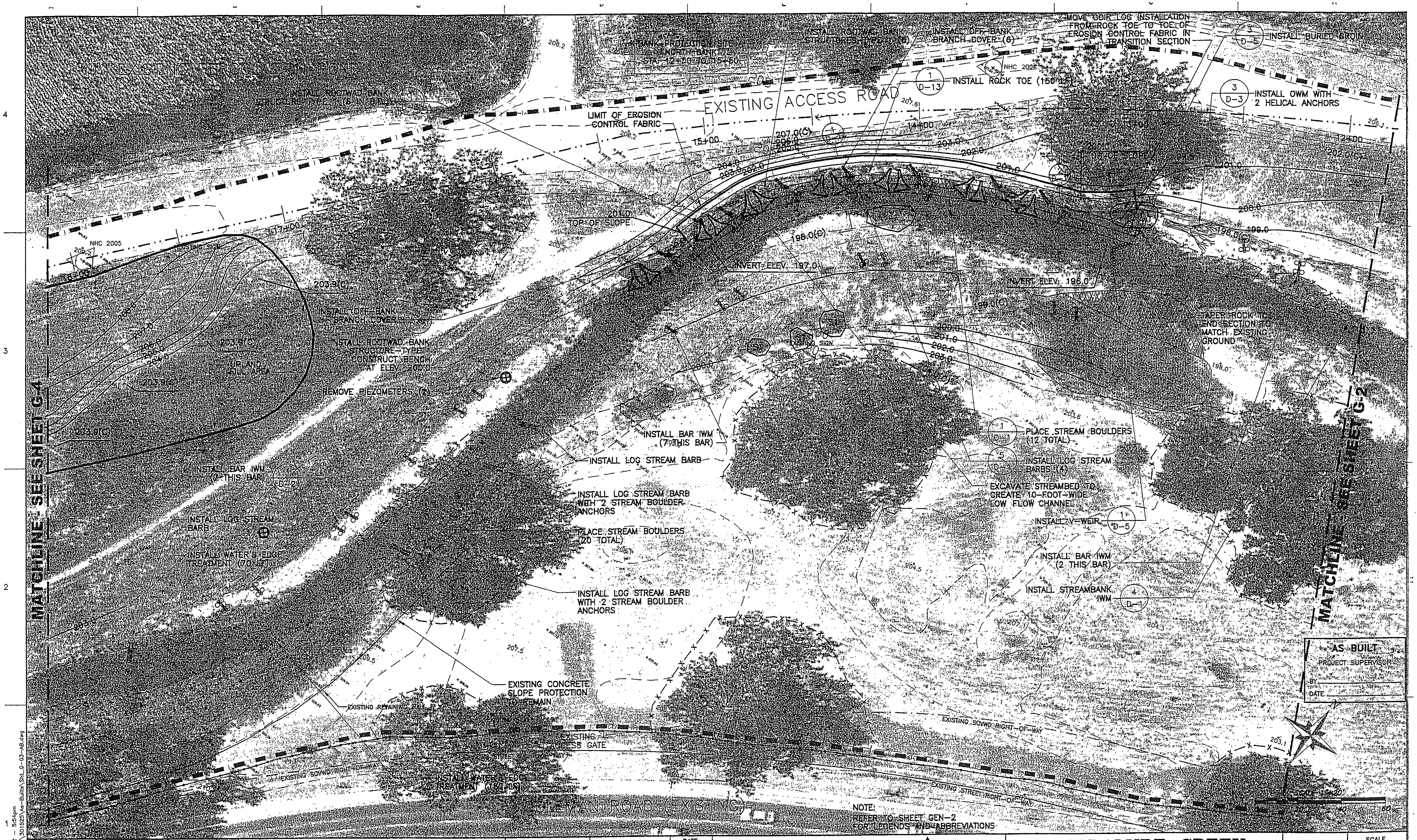

EXISTING PERCOLATION POND
INSTALL ROOTWAD BANK STRUCTURE TYPE 1 (6 IN BAR)
BANK PROTECTION SITE 3 NORTH BANK STA. 12+50 TO 15+50
INSTALL ROOTWAD BANK STRUCTURES TYPE 1 (6)
INSTALL OFF-BANK BRANCH COVER (6)
MOVE COIR LOG INSTALLATION FROM ROCK TOE TO TOE OF EROSION CONTROL FABRIC IN TRANSITION SECTION
INSTALL BURIED GROIN
3 D-5
NHC 2005
1 D-13
INSTALL ROCK TOE (150 LF)
3 D-3
INSTALL OWM WITH 2 HELICAL ANCHORS
EXISTING ACCESS ROAD
LIMIT OF EROSION CONTROL FABRIC
208.2
207.6
206.1
15+00
14+00
12+00
16+00
17+00
207.0(C)
206.0
205.0
204.0
203.0
202.0
201.0
200.0
199.0
198.0(C)
202.0(C)
TOP OF SLOPE
NHC 2005
EXISTING SIGN
203.9(C)
UPLAND FILL AREA
INSTALL OFF-BANK BRANCH COVER
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 CONSTRUCT BENCH AT ELEV. 200.0
REMOVE PIEZOMETERS (2)
INVERT ELEV. 197.0
INVERT ELEV. 196.0
199.0(C)
TAPER ROCK TOE END SECTION TO MATCH EXISTING GROUND
INSTALL BAR IWM (7 THIS BAR)
D-2
INSTALL LOG STREAM BARB
INSTALL LOG STREAM BARB WITH 2 STREAM BOULDER ANCHORS
PLACE STREAM BOULDERS (20 TOTAL)
INSTALL WATER'S EDGE TREATMENT (70 LF)
1 D-1
PLACE STREAM BOULDERS (12 TOTAL)
5 D-1
INSTALL LOG STREAM BARBS (4)
EXCAVATE STREAMBED TO CREATE 10-FOOT-WIDE LOW FLOW CHANNEL
1 D-5
INSTALL V-WEIR
INSTALL BAR IWM (2 THIS BAR)
4 D-1
INSTALL STREAMBANK IWM
203.6
207.2
204.5
207
204.3
203.1
207.5
209.5
209.6
203.9
MATCHLINE - SEE SHEET G-4
MATCHLINE - SEE SHEET G-2
EXISTING RETAINING WALL
EXISTING CONCRETE SLOPE PROTECTION TO REMAIN
EXISTING ACCESS GATE
EXISTING SCVWD RIGHT-OF-WAY
INSTALL WATER'S EDGE TREATMENT (180 LF)
EXISTING STREET RIGHT-OF-WAY
COLEMAN ROAD (EXISTING)
N
SCALE 1"=20'
0 20 40 60

NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

AS BUILT
PROJECT SUPERVISOR
BY ________
DATE ________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

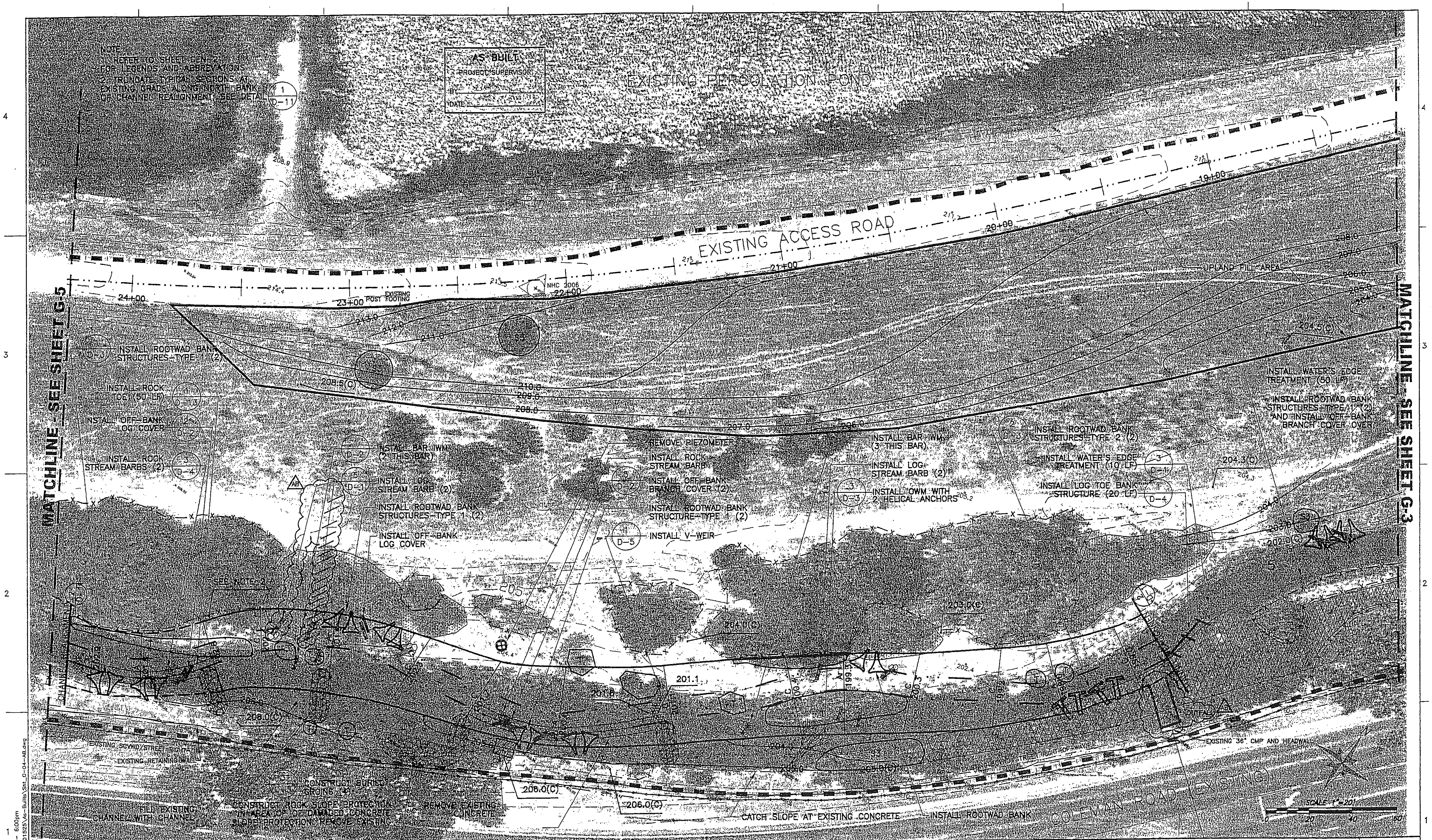
GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-3
6 OF 52

Plot Date: Wed 27 Feb 2002 – 5:54pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-03-AB.dwg


NOTE:
1. REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS
2. TRUNCATE TYPICAL SECTIONS AT EXISTING GRADE ALONG NORTH BANK OF CHANNEL REALIGNMENT, SEE DETAIL 1/D-11
AS BUILT
PROJECT SUPERVISOR
BY
DATE
EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET G-5
MATCHLINE - SEE SHEET G-3
24+00
23+00
EXISTING POST FOOTING
NHC 2006
22+00
21+00
20+00
19+00
213.0
212.0
211.0
210.0
209.0
208.0
207.0
206.0
208.5(C)
UPLAND FILL AREA
204.5(C)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2) D-3
INSTALL ROCK TOE (50 LF) D-13
INSTALL OFF-BANK LOG COVER D-2
INSTALL ROCK STREAM BARBS (2) 3/D-4
INSTALL BAR IWM (2 THIS BAR) D-2
INSTALL LOG STREAM BARB (2) 5/D-1
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK LOG COVER
REMOVE PIEZOMETER
INSTALL ROCK STREAM BARB
INSTALL OFF-BANK BRANCH COVER (2) D-2
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 (2)
INSTALL V-WEIR 1/D-5
INSTALL BAR IWM (3 THIS BAR)
INSTALL LOG STREAM BARB (2)
INSTALL OWM WITH 2 HELICAL ANCHORS 3/D-3
INSTALL ROOTWAD BANK STRUCTURES-TYPE 2 (2) 2/D-3
INSTALL WATER'S EDGE TREATMENT (10 LF) 3/D-1
INSTALL LOG TOE BANK STRUCTURE (20 LF) 1/D-4
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2) AND INSTALL OFF-BANK BRANCH COVER OVER
204.3(C)
203.0
202.0(C)
SEE NOTE 2
205
204.0(C)
203.0(C)
201.1
201.8
208.0(C)
206.0(C)
EXISTING SCVWD/STREET RIGHT-OF-WAY
EXISTING RETAINING WALL
CONSTRUCT BURIED GROINS (4) D-5
FILL EXISTING CHANNEL WITH CHANNEL
CONSTRUCT ROCK SLOPE PROTECTION IN AREA OF DAMAGED CONCRETE SLOPE PROTECTION. REMOVE EXISTING
REMOVE EXISTING CONCRETE
CATCH SLOPE AT EXISTING CONCRETE
INSTALL ROOTWAD BANK
EXISTING 36" CMP AND HEADWALL
COLEMAN ROAD (EXISTING)
SCALE 1"=20'
0
20
40
60

Plot Date: Wed 27 Feb 2002 - 6:00pm
DWG FILE NAME: C:\dwgs\P\301525\As-Builts\Sht_G-04-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/CJ/BK
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

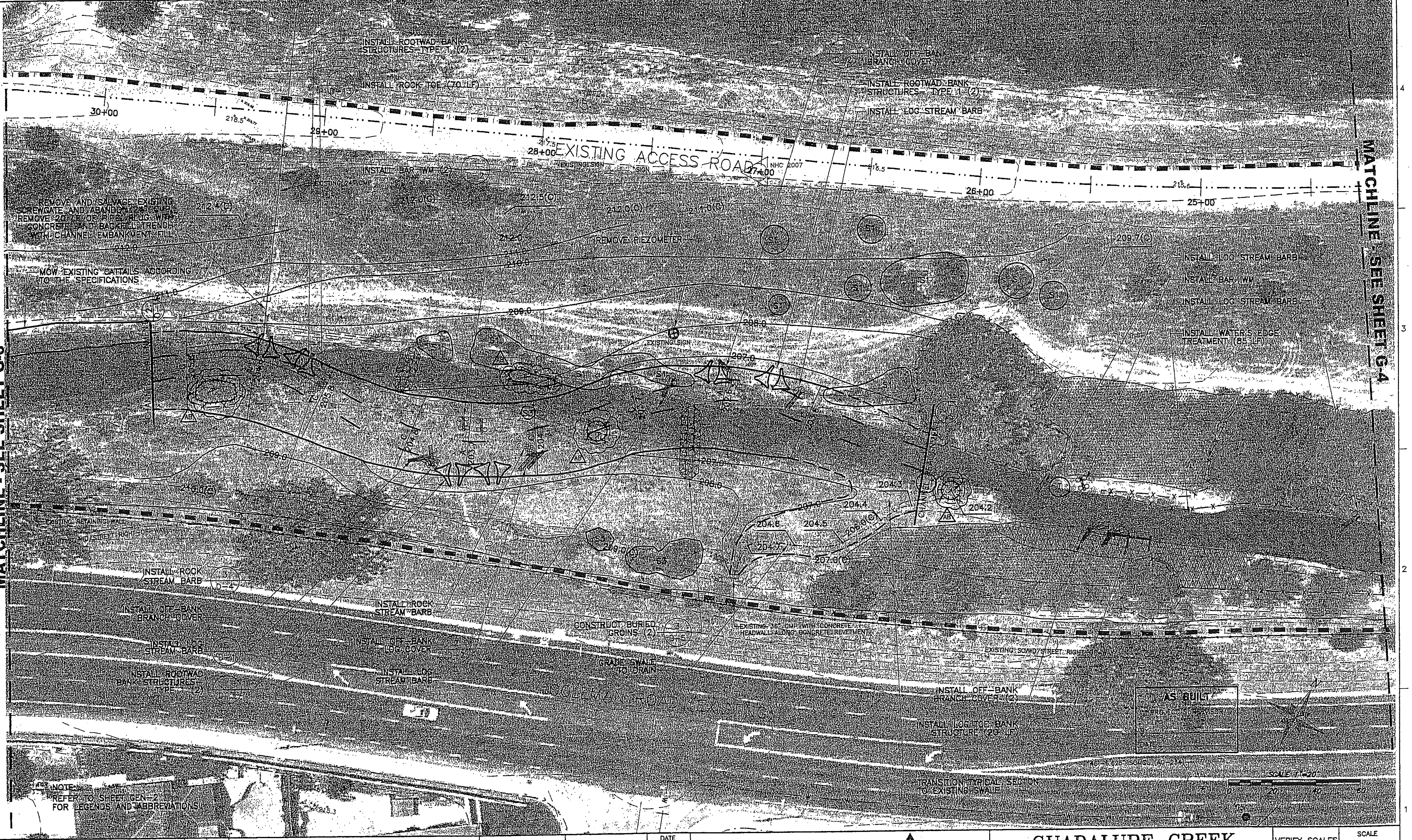
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-4
7 OF 52


MATCHLINE - SEE SHEET G-6
MATCHLINE - SEE SHEET G-4
INSTALL ROOTWAD BANK STRUCTURES—TYPE 1 (2)
INSTALL ROCK TOE (70 LF)
D-13
30+00
218.5
29+00
28+00
217.5
EXISTING ACCESS ROAD
EXISTING SIGN
NHC 2007
27+00
216.5
26+00
215.6
25+00
INSTALL BAR IWM (2)
D-2
EXISTING 24" CMP
REMOVE AND SALVAGE EXISTING SCREWGATE AND ABANDON 24" CMP. REMOVE 20 LF OF PIPE, PLUG WITH CONCRETE AND BACKFILL TRENCH WITH CHANNEL EMBANKMENT FILL
212.4(C)
212.0(C)
212.5(C)
212.0(C)
211.0(C)
212.0
211.0
210.0
REMOVE PIEZOMETER
MOW EXISTING CATTAILS ACCORDING TO THE SPECIFICATIONS
211.0
209.0
208.0
207.0
EXISTING SIGN
INSTALL OFF-BANK BRANCH COVER
D-2
INSTALL ROOTWAD BANK STRUCTURES— TYPE 1 (2)
INSTALL LOG STREAM BARB
S1
209.7(C)
INSTALL LOG STREAM BARB
INSTALL BAR IWM
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (85 LF)
AB
206.0
205.0
204.0
208.0
210.0(C)
204.5
204.4
204.2
204.6
204.5
204.7
206.0(C)
207.0(C)
209.0(C)
S3
EXISTING RETAINING WALL
EXISTING SCVWD/STREET RIGHT-OF-WAY
INSTALL ROCK STREAM BARB
3
D-4
INSTALL OFF-BANK BRANCH COVER
INSTALL LOG STREAM BARB
D-1
INSTALL ROOTWAD BANK STRUCTURES— TYPE 1 (2)
D-3
INSTALL ROCK STREAM BARB
INSTALL OFF-BANK LOG COVER
INSTALL LOG STREAM BARB
CONSTRUCT BURIED GROINS (2)
3
D-5
GRADE SWALE TO DRAIN
EXISTING 36" CMP WITH CONCRETE HEADWALL ALONG CONCRETE REVETMENT
215.5
EXISTING SCVWD/STREET RIGHT-OF-WAY
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL LOG TOE BANK STRUCTURE (20 LF)
AS BUILT
PROJECT SUPERVISOR
BY
DATE
6"-6.625" SCNGL (AO 234)
TRANSITION TYPICAL SECTION TO EXISTING SWALE
SCALE 1"=20'
0
20
40
60
215.3
NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS
A
B
C
D
E
F
G
H
1
2
3
4

Plot Date: Wed 27 Feb 2002 - 8:31pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-05-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3650 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE
04/16/01
DESIGN
EW/JH
DRAWN
BH/BK/JS
CHECKED
EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/10/01 ***
DATE

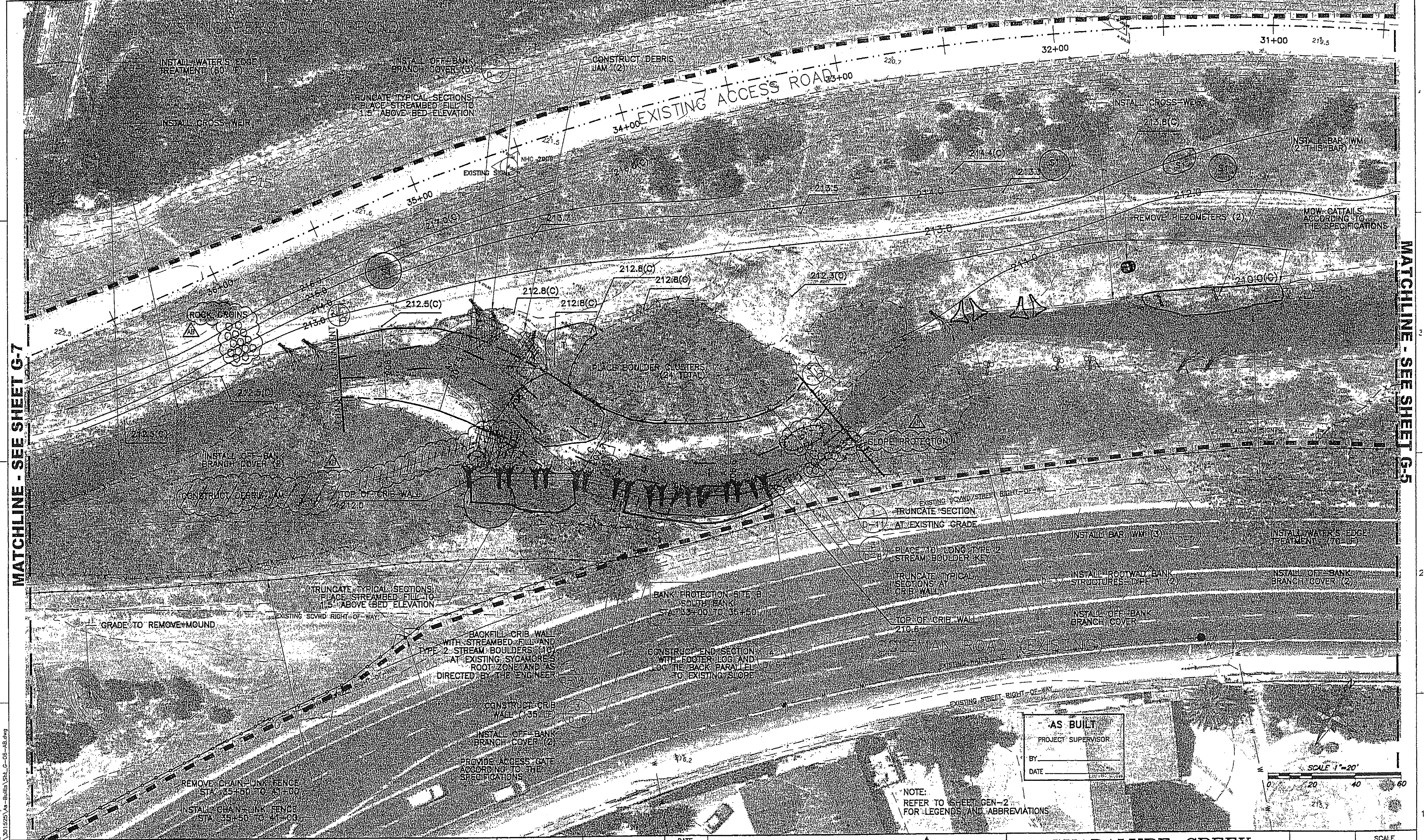
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-5
8 OF 52


EXISTING PERCOLATION POND
INSTALL WATER'S EDGE TREATMENT (60 LF)
INSTALL OFF-BANK BRANCH COVER (3)
D-2
CONSTRUCT DEBRIS JAM (2)
TRUNCATE TYPICAL SECTIONS PLACE STREAMBED FILL TO 1.5' ABOVE BED ELEVATION
INSTALL CROSS-WEIR
34+00
EXISTING ACCESS ROAD
33+00
32+00
31+00
221.5
220.7
219.5
NHC 2005
EXISTING SIGN
216.8(C)
215
35+00
221.6
220
217.0(C)
213.7
213.5
214.4(C)
213.0
214.0
213.0
212.0
211.0
INSTALL CROSS-WEIR
213.8(C)
INSTALL BAR IWM (2 THIS BAR)
REMOVE PIEZOMETERS (2)
MOW CATTAILS ACCORDING TO THE SPECIFICATIONS
212.8(C)
212.8(C)
212.8(C)
212.8(C)
212.5(C)
212.3(C)
210.0(C)
36+00
216.0
215.0
214.0
213.0
ROCK GROINS
AB
222.5
PLACE BOULDER CLUSTERS (24 TOTAL)
212.5(C)
MATCHLINE - SEE SHEET G-7
MATCHLINE - SEE SHEET G-5
212.5(C)
INSTALL OFF-BANK BRANCH COVER (2)
CONSTRUCT DEBRIS JAM
TOP OF CRIB WALL
212.0
SLOPE PROTECTION
EXISTING SIGN
EXISTING SCVWD/STREET RIGHT-OF-WAY
1 D-11 TRUNCATE SECTION AT EXISTING GRADE
3 D-8 PLACE 10' LONG TYPE 2 STREAM BOULDER KEY
TRUNCATE TYPICAL SECTIONS AT CRIB WALL
INSTALL BAR IWM (3)
D-2
INSTALL WATER'S EDGE TREATMENT (70 LF)
D-3 INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL OFF-BANK BRANCH COVER
TOP OF CRIB WALL 210.6
COLEMAN ROAD (EXISTING)
EXISTING WATER LINE
TRUNCATE TYPICAL SECTIONS PLACE STREAMBED FILL TO 1.5' ABOVE BED ELEVATION
EXISTING SCVWD RIGHT-OF-WAY
GRADE TO REMOVE MOUND
BANK PROTECTION SITE B SOUTH BANK STA 33+00 TO 35+50
BACKFILL CRIB WALL WITH STREAMBED FILL AND TYPE 2 STREAM BOULDERS (10) AT EXISTING SYCAMORE'S ROOT ZONE AND AS DIRECTED BY THE ENGINEER
CONSTRUCT END SECTION WITH FOOTER LOG AND LOG TIE BACK PARALLEL TO EXISTING SLOPE
4 D-6
CONSTRUCT CRIB WALL (135 LF)
3 D-6
INSTALL OFF-BANK BRANCH COVER (2)
PROVIDE ACCESS GATE ACCORDING TO THE SPECIFICATIONS
REMOVE CHAIN-LINK FENCE STA 35+50 TO 41+00
INSTALL CHAIN-LINK FENCE STA 35+50 TO 41+00
EXISTING STREET RIGHT-OF-WAY
216.2
215.7
SCALE 1"=20'
0
20
40
60

AS BUILT
PROJECT SUPERVISOR
BY________
DATE________

NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

Plot Date: Wed 27 Feb 2002 - 8:56pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-06-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3436

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	EW/JH
DRAWN	BH/BK/JS
CHECKED	EW/JZ

Santa Clara Valley Water District

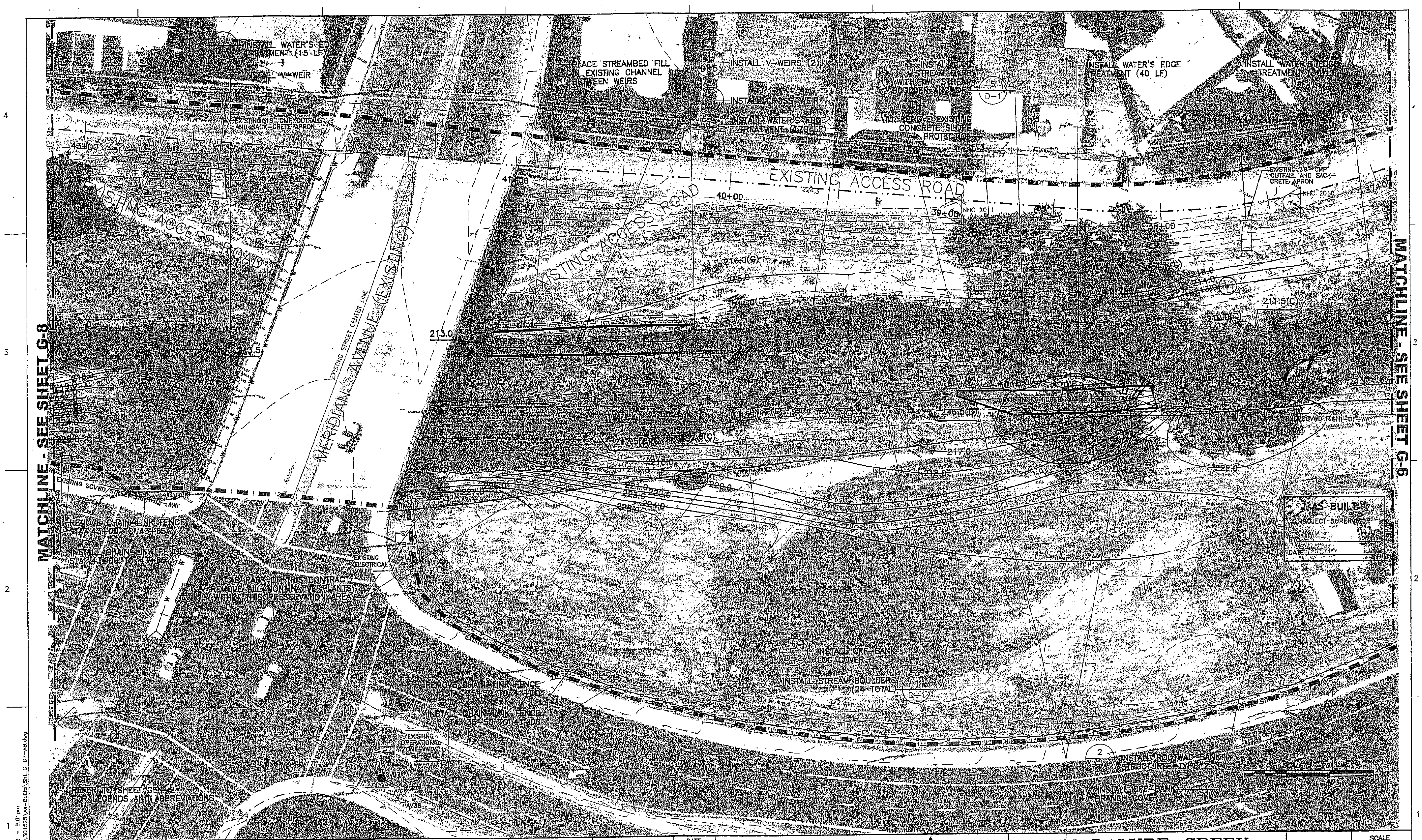
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/10/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN
SHEET AB
G-6
9 OF 52


INSTALL WATER'S EDGE TREATMENT (15 LF)
INSTALL V-WEIR
PLACE STREAMBED FILL IN EXISTING CHANNEL BETWEEN WEIRS
INSTALL V-WEIRS (2)
INSTALL CROSS-WEIR
INSTALL WATER'S EDGE TREATMENT (470 LF)
INSTALL LOG STREAM BARS WITH TWO STREAM BOULDER ANCHORS
REMOVE EXISTING CONCRETE SLOPE PROTECTION
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (30 LF)
EXISTING 18" CMP OUTFALL AND SACK-CRETE APRON
EXISTING SCVWD RIGHT-OF-WAY
EXISTING ACCESS ROAD
43+00
42+00
41+00
40+00
39+00
38+00
37+00
NHC 2011
NHC 2010
MERIDIAN AVENUE (EXISTING)
EXISTING STREET CENTER LINE
MATCHLINE - SEE SHEET G-8
MATCHLINE - SEE SHEET G-6
EXISTING SCVWD/STREET RIGHT-OF-WAY
SCVWD RIGHT-OF-WAY
216.0(C)
215.0
214.0(C)
213.0
212.5
211.5(C)
212.0(C)
217.5(C)
217.0
218.0
219.0
220.0
221.0
222.0
223.0
224.0
225.0
227.0
REMOVE CHAIN-LINK FENCE STA. 43+00 TO 43+65
INSTALL CHAIN-LINK FENCE STA. 43+00 TO 43+65
AS PART OF THIS CONTRACT, REMOVE ALL NON-NATIVE PLANTS WITHIN THIS PRESERVATION AREA
EXISTING ELECTRICAL VAULT
EXISTING STREET RIGHT-OF-WAY
REMOVE CHAIN-LINK FENCE STA. 35+50 TO 41+00
INSTALL CHAIN-LINK FENCE STA. 35+50 TO 41+00
EXISTING OPERATIONAL ZONE VALVE
AV37
AV38
INSTALL OFF-BANK LOG COVER
INSTALL STREAM BOULDERS (24 TOTAL)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 2
INSTALL OFF-BANK BRANCH COVER (2)
D-1
D-2
D-5
SCALE 1"=20'
0
20
40
60
AS BUILT
PROJECT SUPERVISOR
BY
DATE

NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE
04/16/01
DESIGN
EW/JH
DRAWN
BH/BK/JS
CHECKED
EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
AB
G-7
10 OF 52

Plot Date: Wed 27 Feb 2002 - 9:01pm
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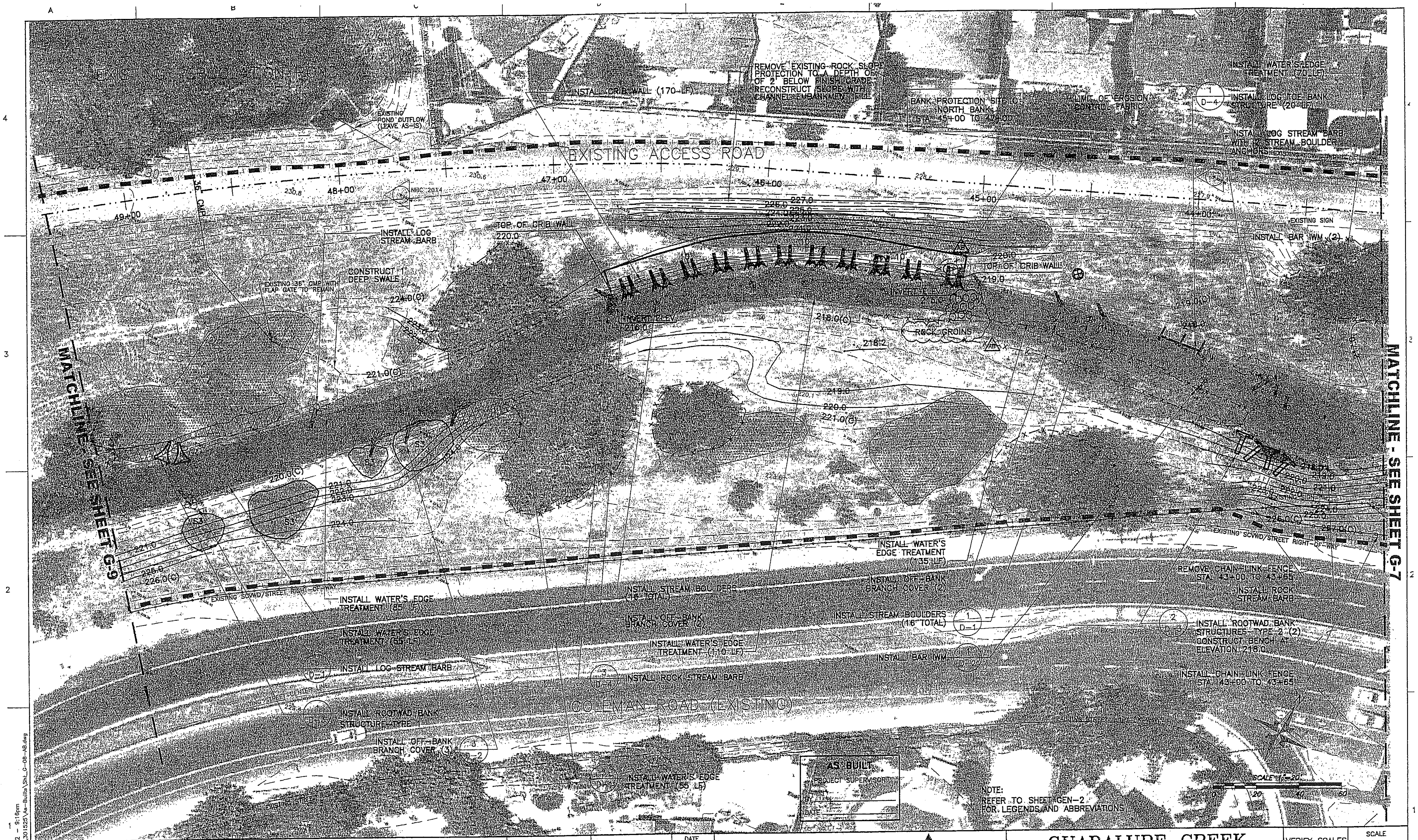
EXISTING PERCOLATION POND
EXISTING POND OUTFLOW (LEAVE AS-IS)
INSTALL CRIB WALL (170 LF)
REMOVE EXISTING ROCK SLOPE PROTECTION TO A DEPTH OF OF 2' BELOW FINISH GRADE RECONSTRUCT SLOPE WITH CHANNEL EMBANKMENT FILL
BANK PROTECTION SITE C NORTH BANK STA 45+00 TO 47+00
LIMIT OF EROSION CONTROL FABRIC
INSTALL WATER'S EDGE TREATMENT (70 LF)
INSTALL LOG TOE BANK STRUCTURE (20 LF)
INSTALL LOG STREAM BARB WITH 12 STREAM BOULDER ANCHORS
EXISTING SCVWD RIGHT-OF-WAY
EXISTING ACCESS ROAD
36" CMP
49+00
48+00
47+00
46+00
45+00
44+00
NHC 2014
230.8
230.6
229.1
228.6
227.9
227.0
226.0
225.0
224.0
INSTALL LOG STREAM BARB
TOP OF CRIB WALL 220.0
CONSTRUCT 1' DEEP SWALE
EXISTING 36" CMP WITH FLAP GATE TO REMAIN
224.0(C)
INVERT ELEV 216.0
INVERT ELEV 216.0
TOP OF CRIB WALL 220.0
219.0
EXISTING SIGN
INSTALL BAR IWM (2)
218.0(C)
ROCK GROINS
218.2
219.0(C)
218.0
221.0(C)
219.0
220.0
221.0(C)
220.0(C)
221.0
222.0
223.0
224.0
S3
221.0
225.0
226.0(C)
226.0(C)
227.0(C)
EXISTING SCVWD/STREET RIGHT-OF-WAY
MATCHLINE - SEE SHEET G-9
MATCHLINE - SEE SHEET G-7
INSTALL WATER'S EDGE TREATMENT (135 LF)
INSTALL WATER'S EDGE TREATMENT (85 LF)
INSTALL STREAM BOULDERS (16 TOTAL)
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL WATER'S EDGE TREATMENT (55 LF)
INSTALL STREAM BOULDERS (16 TOTAL)
1 D-1
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL WATER'S EDGE TREATMENT (110 LF)
REMOVE CHAIN-LINK FENCE STA 43+00 TO 43+65
INSTALL ROCK STREAM BARB
2 D-3
INSTALL ROOTWAD BANK STRUCTURES-TYPE 2 (2) CONSTRUCT BENCH AT ELEVATION 218.0
INSTALL BAR IWM
1 D-2
INSTALL CHAIN-LINK FENCE STA 43+00 TO 43+65
5 D-1
INSTALL LOG STREAM BARB
3 D-4
INSTALL ROCK STREAM BARB
EXISTING STREET CENTER LINE
COLEMAN ROAD (EXISTING)
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
INSTALL OFF-BANK BRANCH COVER (3)
3 D-2
INSTALL WATER'S EDGE TREATMENT (55 LF)
SCALE 1"=20'
0
20
40
60

AS BUILT
PROJECT SUPERVISOR
BY
DATE

NOTE:
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FOR LEGENDS AND ABBREVIATIONS

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west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

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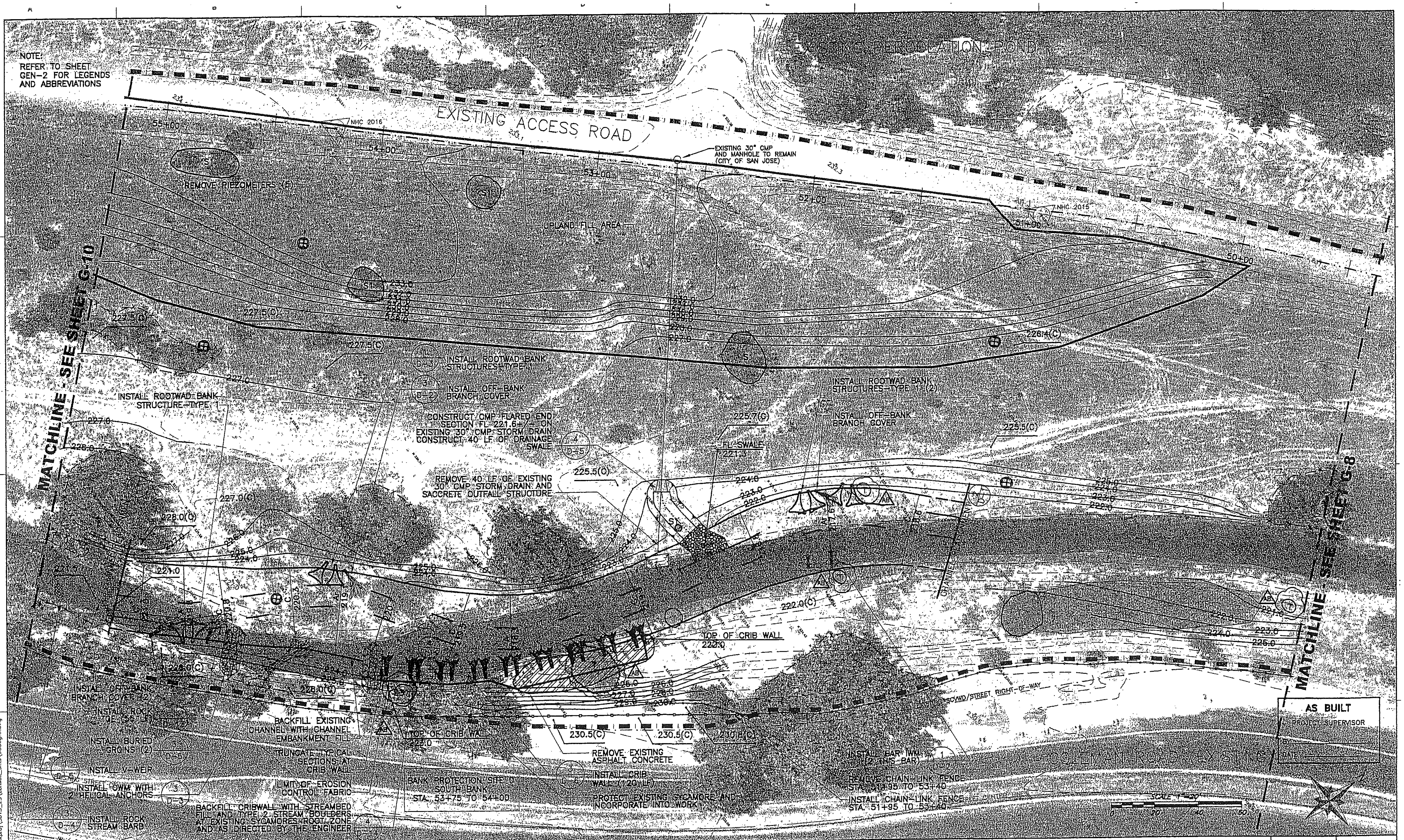
SCALE
AS SHOWN

SHEET AB
G-8
11 OF 52

Plot Date: Wed 27 Feb 2002 - 9:16pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\ShL_G-08-AB.dwg



NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS
EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
NHC 2016
NHC 2015
55+00
54+00
53+00
52+00
51+00
50+00
EXISTING 30" CMP AND MANHOLE TO REMAIN (CITY OF SAN JOSE)
REMOVE PIEZOMETERS (F)
UPLAND FILL AREA
MATCHLINE - SEE SHEET G-10
MATCHLINE - SEE SHEET G-8
233.0
232.0
231.0
230.0
229.0
228.0
227.0
227.5(C)
226.4(C)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1
INSTALL OFF-BANK BRANCH COVER
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
CONSTRUCT CMP FLARED END SECTION FL 221.6+/- ON EXISTING 30" CMP STORM DRAIN CONSTRUCT 40 LF OF DRAINAGE SWALE
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK BRANCH COVER
225.7(C)
FL SWALE 221.5
225.5(C)
224.0
223.0
222.0
221.0
227.0(C)
228.0(C)
222.0(C)
TOP OF CRIB WALL 222.0
226.0
225.0
224.0
226.0(C)
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL ROCK TOE (55 LF)
BACKFILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
TOP OF CRIB WALL 225.0
INSTALL BURIED GROINS (2)
TRUNCATE TYPICAL SECTIONS AT CRIB WALL
INSTALL V-WEIR
LIMIT OF EROSION CONTROL FABRIC
INSTALL OWM WITH 2 HELICAL ANCHORS
BACKFILL CRIBWALL WITH STREAMBED FILL AND TYPE 2 STREAM BOULDERS AT EXISTING SYCAMORES ROOT ZONE AND AS DIRECTED BY THE ENGINEER
INSTALL ROCK STREAM BARB
BANK PROTECTION SITE D SOUTH BANK STA. 53+75 TO 54+00
230.5(C)
230.5(C)
230.5(C)
REMOVE EXISTING ASPHALT CONCRETE
INSTALL CRIB WALL (120 LF)
PROTECT EXISTING SYCAMORE AND INCORPORATE INTO WORK
SCVWD/STREET RIGHT-OF-WAY
INSTALL BAR IWM (2 THIS BAR)
REMOVE CHAIN-LINK FENCE STA. 51+95 TO 53+40
INSTALL CHAIN-LINK FENCE STA. 51+95 TO 53+40
COLEMAN ROAD (EXISTING)
STREET CENTERLINE
SCALE 1"=20'
0
20
40
60
D-1
D-2
D-3
D-4
D-5
D-6
D-14
AB

AS BUILT
PROJECT SUPERVISOR
BY
DATE

Plot Date: Wed 27 Feb 2002 — 9:46pm
DWG FILE NAME: G:\dwgs\sdskproj\3015_25\consult_shts\9350gr9.dwg

REV	DESCRIPTION	DATE	APPR
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west sacramento, california 95691-3430

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R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/18/01 ***
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GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

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0 1"
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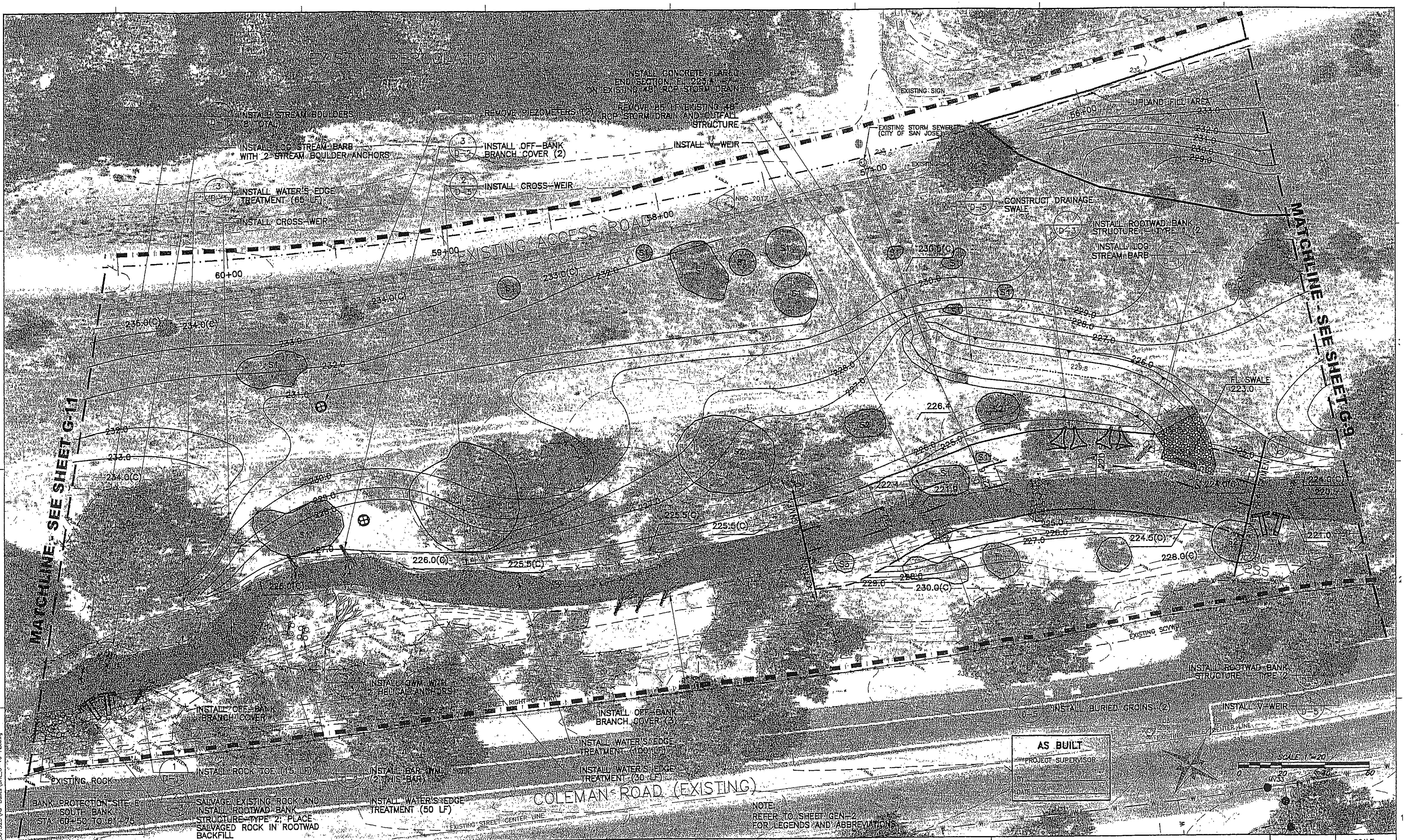
SCALE
AS SHOWN

SHEET AB
G-9
12 OF 52


EXISTING PERCOLATION POND
INSTALL CONCRETE FLARED END SECTION, FL 225± ON EXISTING 48" RCP STORM DRAIN
REMOVE 85 LF EXISTING 48" RCP STORM DRAIN AND OUTFALL STRUCTURE
REMOVE PIEZOMETERS (2)
INSTALL STREAM BOULDERS (8 TOTAL)
INSTALL LOG STREAM BARB WITH 2 STREAM BOULDER ANCHORS
3 D-2 INSTALL OFF-BANK BRANCH COVER (2)
INSTALL V-WEIR
2 D-5 INSTALL CROSS-WEIR
3 D-1 INSTALL WATER'S EDGE TREATMENT (65 LF)
INSTALL CROSS-WEIR
NHC 2017
EXISTING ACCESS ROAD
60+00
59+00
58+00
57+00
56+00
EXISTING SIGN
EXISTING STORM SEWER (CITY OF SAN JOSE)
UPLAND FILL AREA
4 D-5 CONSTRUCT DRAINAGE SWALE
1 D-3 INSTALL ROOTWAD BANK STRUCTURE – TYPE 1 (2)
INSTALL LOG STREAM BARB
5 D-1
MATCHLINE - SEE SHEET G-9
MATCHLINE - SEE SHEET G-11
FL SWALE 223.0
226.4
235.0(C)
234.0(C)
233.0(C)
230.5(C)
226.0(C)
225.5(C)
224.5(C)
228.0(C)
230.0(C)
233.0
232.0
231.0
230.0
229.0
228.0
227.0
226.0
225.0
222.4
221.0
S1
S2
INSTALL CWM WITH 2 HELICAL ANCHORS
STREET RIGHT-OF-WAY
INSTALL OFF-BANK BRANCH COVER
1 D-1 INSTALL ROCK TOE (15 LF)
EXISTING ROCK
BANK PROTECTION SITE 6 SOUTH BANK STA. 60+50 TO 61+75
2 D-3 SALVAGE EXISTING ROCK AND INSTALL ROOTWAD BANK STRUCTURE–TYPE 2; PLACE SALVAGED ROCK IN ROOTWAD BACKFILL
D-2 INSTALL BAR WM (2 THIS BAR)
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK BRANCH COVER (3)
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL WATER'S EDGE TREATMENT (30 LF)
COLEMAN ROAD (EXISTING)
EXISTING STREET CENTER LINE
EXISTING SCVWD
INSTALL ROOTWAD BANK STRUCTURE – TYPE 2 D-3
D-5 INSTALL BURIED GROINS (2)
INSTALL V-WEIR D-5
AS BUILT
PROJECT SUPERVISOR
BY
DATE
SCALE 1"=20'
0 20 40 60
MV33

NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

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2880 Zanker Rd., San Jose, CA 95134

nhc
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

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Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

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GUADALUPE CREEK RESTORATION PROJECT

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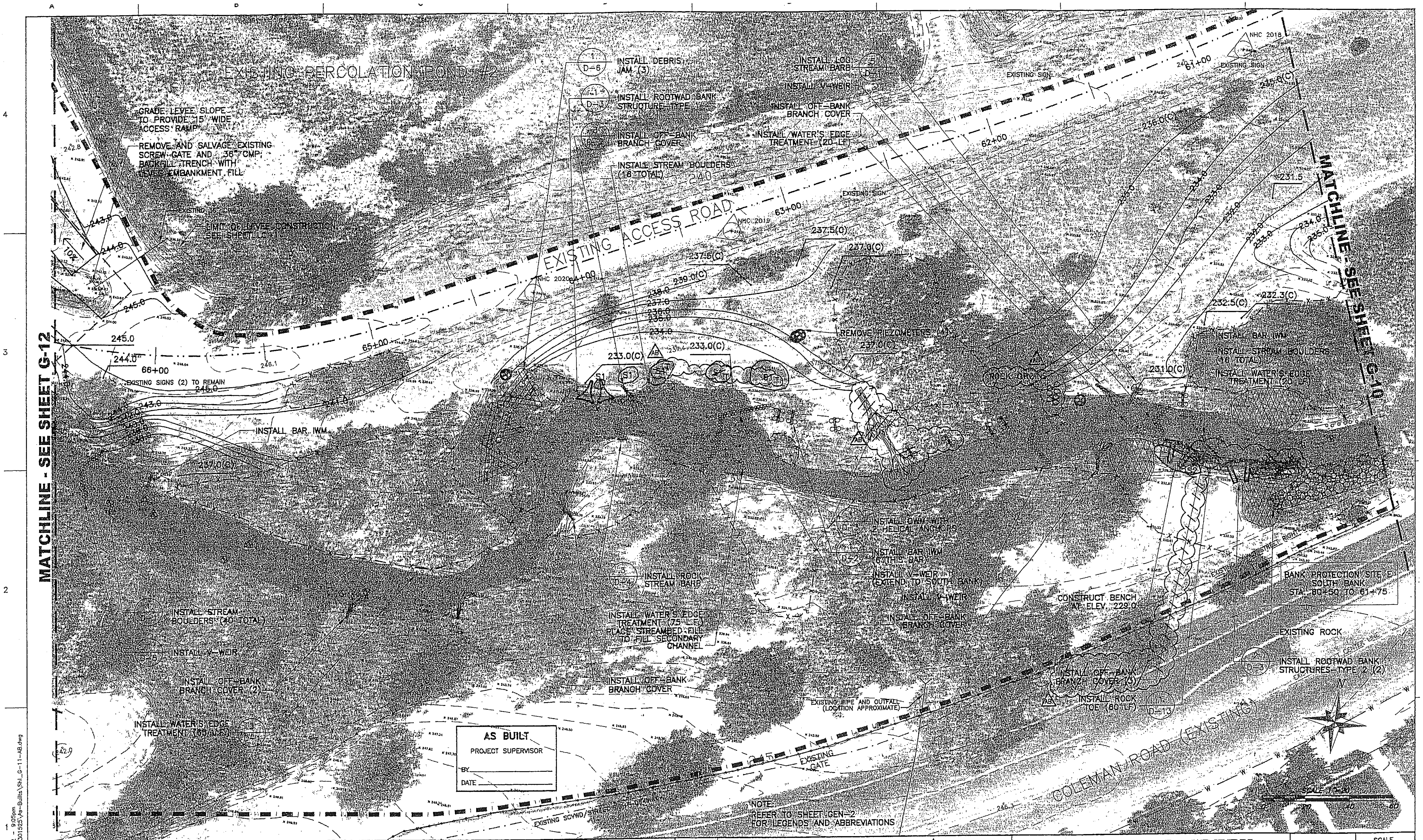
SCALE
AS SHOWN

SHEET AB
G-10
13 OF 52

Plot Date: Wed 27 Feb 2002 - 9:59pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sh_G-10-AB.dwg


EXISTING PERCOLATION POND #2
GRADE LEVEE SLOPE TO PROVIDE 15' WIDE ACCESS RAMP
REMOVE AND SALVAGE EXISTING SCREW GATE AND 36" CMP; BACKFILL TRENCH WITH LEVEE EMBANKMENT FILL
EXISTING 36" CMP
LIMIT OF LEVEE CONSTRUCTION SEE SHEET LO-1
10%
242.8
243.0
244.0
245.0
245.0
244.0
66+00
65+00
64+00
63+00
62+00
61+00
EXISTING SIGNS (2) TO REMAIN
INSTALL BAR IWM
237.0(C)
MATCHLINE - SEE SHEET G-12
MATCHLINE - SEE SHEET G-10
1 D-6 INSTALL DEBRIS JAM (3)
1 D-3 INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
2 D-2 INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM BOULDERS (18 TOTAL)
240
EXISTING ACCESS ROAD
NHC 2020
NHC 2019
NHC 2018
EXISTING SIGN
INSTALL LOG STREAM BARB 5 D-1
INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER
INSTALL WATER'S EDGE TREATMENT (20 LF)
237.5(C)
237.5(C)
237.0(C)
239.0(C)
238.0
237.0
236.0
235.0
234.0
233.0(C)
233.0(C)
REMOVE PIEZOMETERS (4)
237.0(C)
ROCK DROP
S1
236.0(C)
236.0
245.0(C)
231.5
234.0
235.0
232.5(C)
232.3(C)
231.0(C)
INSTALL BAR IWM
INSTALL STREAM BOULDERS (16 TOTAL)
INSTALL WATER'S EDGE TREATMENT (20 LF)
3 D-3 INSTALL OWM WITH 2 HELICAL ANCHORS
D-2 INSTALL BAR IWM (6 THIS BAR)
INSTALL V-WEIR (EXTEND TO SOUTH BANK)
INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER
3 D-4 INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (75 LF) PLACE STREAMBED FILL TO FILL SECONDARY CHANNEL
INSTALL OFF-BANK BRANCH COVER
EXISTING PIPE AND OUTFALL (LOCATION APPROXIMATE)
D-1 INSTALL STREAM BOULDERS (40 TOTAL)
D-5 INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL WATER'S EDGE TREATMENT (65 LF) 3 D-
CONSTRUCT BENCH AT ELEV. 229.0
EXISTING SCVWD/STREET RIGHT OF WAY
BANK PROTECTION SITE E SOUTH BANK STA. 60+50 TO 61+75
EXISTING ROCK
2 D-3 INSTALL ROOTWAD BANK STRUCTURES-TYPE 2 (2)
INSTALL OFF-BANK BRANCH COVER (3)
INSTALL ROCK TOE (80 LF) 1 D-13
AB
COLEMAN ROAD (EXISTING)
EXISTING GATE
245
242.0
N
W
SCALE 1"=20'
0 20 40 60
EXISTING SCVWD/STREET RIGHT OF WAY
NOTE: REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

AS BUILT
PROJECT SUPERVISOR
BY ____________
DATE ____________

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Santa Clara Valley Water District

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*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

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0 1"
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SCALE
AS SHOWN

SHEET AB
G-11
14 OF 52

Plot Date: Tue 19 Feb 2002 - 9:05pm
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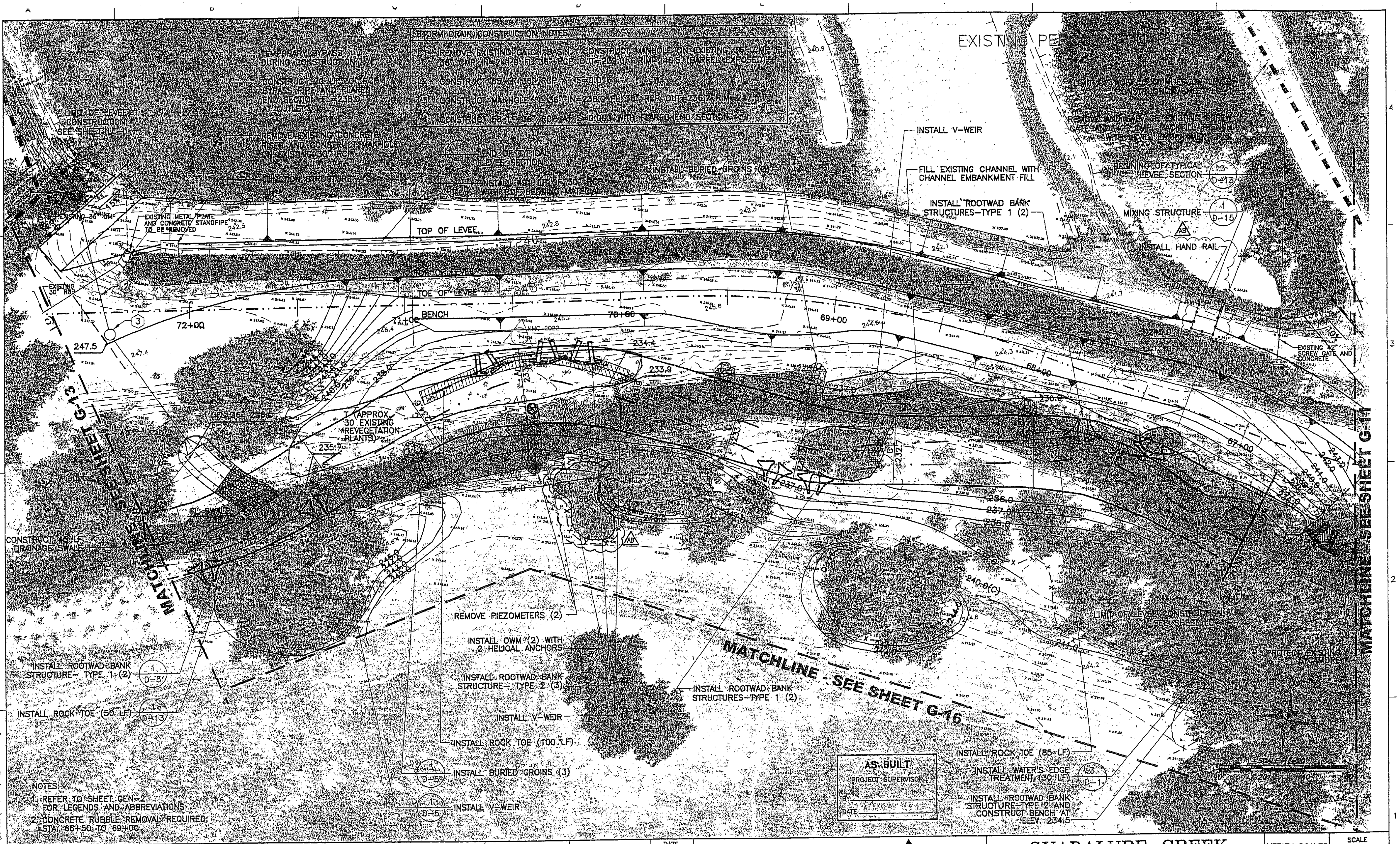
TEMPORARY BYPASS DURING CONSTRUCTION
CONSTRUCT 20 LF 30" RCP BYPASS PIPE AND FLARED END SECTION FL=238.0 AT OUTLET
LIMIT OF LEVEE CONSTRUCTION SEE SHEET LC-1
REMOVE EXISTING CONCRETE RISER AND CONSTRUCT MANHOLE ON EXISTING 30" RCP
END OF TYPICAL LEVEE SECTION
JUNCTION STRUCTURE
INSTALL 49 LF OF 36" RCP WITH CDF BEDDING MATERIAL
EXISTING 36" CMP
EXISTING METAL PLATE AND CONCRETE STANDPIPE TO BE REMOVED
EXISTING 30" RCP
TOP OF LEVEE
TOE OF LEVEE
BENCH
72+00
71+00
70+00
69+00
68+00
67+00
247.5
242.5
242.8
242.3
242.1
241.7
245.6
234.4
233.9
237.0
236.0
237.0
238.0
240.0(C)
241.0
EXISTING PERCOLATION POND
INSTALL V-WEIR
INSTALL BURIED GROINS (3)
FILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
REMOVE AND SALVAGE EXISTING SCREW GATE AND 42" CMP. BACKFILL TRENCH WITH LEVEE EMBANKMENT FILL
BEGINING OF TYPICAL LEVEE SECTION
MIXING STRUCTURE
INSTALL HAND RAIL
EXISTING SCREW GATE AND CONCRETE
PLACE 6" AB
T (APPROX. 30 EXISTING REVEGETATION PLANTS)
SWALE
CONSTRUCT 45 LF DRAINAGE SWALE
MATCHLINE - SEE SHEET G-13
MATCHLINE - SEE SHEET G-11
MATCHLINE - SEE SHEET G-16
REMOVE PIEZOMETERS (2)
INSTALL OWM (2) WITH 2 HELICAL ANCHORS
INSTALL ROOTWAD BANK STRUCTURE- TYPE 2 (3)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL V-WEIR
INSTALL ROCK TOE (100 LF)
INSTALL BURIED GROINS (3)
INSTALL V-WEIR
INSTALL ROOTWAD BANK STRUCTURE- TYPE 1 (2)
INSTALL ROCK TOE (50 LF)
LIMIT OF LEVEE CONSTRUCTION SEE SHEET LC-1
PROTECT EXISTING STRUCTURE
INSTALL ROCK TOE (85 LF)
INSTALL WATER'S EDGE TREATMENT (30 LF)
INSTALL ROOTWAD BANK STRUCTURE-TYPE 2 AND CONSTRUCT BENCH AT ELEV. 234.5
SCALE 1"=20'
AS BUILT
PROJECT SUPERVISOR
BY
DATE

STORM DRAIN CONSTRUCTION NOTES

① REMOVE EXISTING CATCH BASIN. CONSTRUCT MANHOLE ON EXISTING 36" CMP FL 36" CMP IN=241.9 FL 36" RCP OUT=239.0, RIM=246.5 (BARREL EXPOSED)

② CONSTRUCT 65 LF 36" RCP AT S=0.016

③ CONSTRUCT MANHOLE FL 36" IN=238.0 FL 36" RCP OUT=236.7 RIM=247.5

④ CONSTRUCT 58 LF 36" RCP AT S=0.005 WITH FLARED END SECTION

NOTES:
1. REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS
2. CONCRETE RUBBLE REMOVAL REQUIRED; STA. 66+50 TO 69+00

Plot Date: Tue 19 Feb 2002 - 4:41pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-12-AB.dwg

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GUADALUPE CREEK RESTORATION PROJECT

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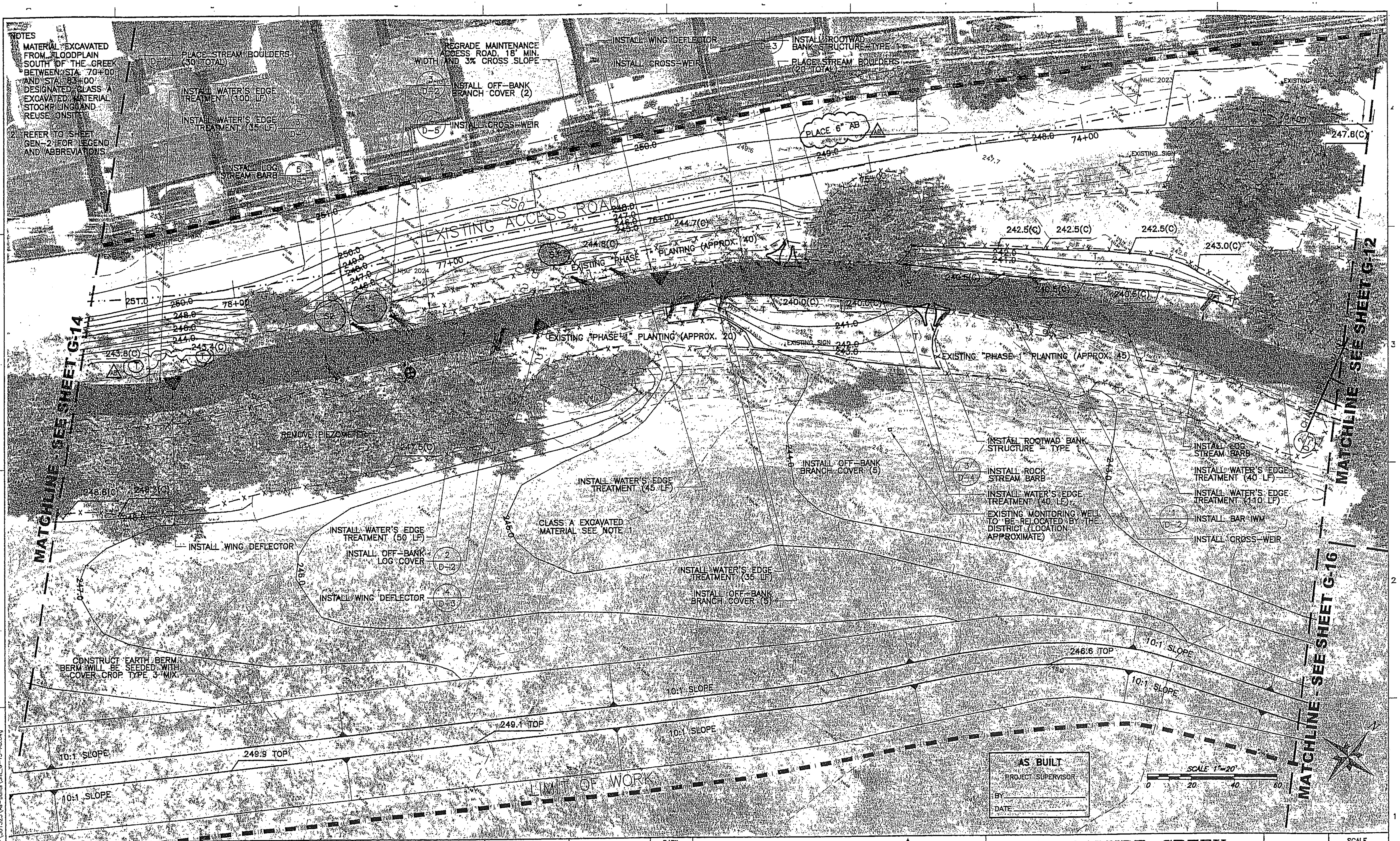
SCALE
AS SHOWN

SHEET AB
G-12
15 OF 52

NOTES
1. MATERIAL EXCAVATED FROM FLOODPLAIN SOUTH OF THE CREEK BETWEEN STA. 70+00 AND STA. 83+00 DESIGNATED CLASS A EXCAVATED MATERIAL STOCKPILING AND REUSE ONSITE.
2. REFER TO SHEET GEN-2 FOR LEGEND AND ABBREVIATIONS.


PLACE STREAM BOULDERS (30 TOTAL) 1/D-1
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL WATER'S EDGE TREATMENT (35 LF) 3/D-1
INSTALL LOG STREAM BARB 5/D-1
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN. WIDTH AND 3% CROSS SLOPE
INSTALL OFF-BANK BRANCH COVER (2) 3/D-2
INSTALL CROSS-WEIR 2/D-5
INSTALL WING DEFLECTOR
INSTALL CROSS-WEIR
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1 D-3
PLACE STREAM BOULDERS (20 TOTAL)
PLACE 6" AB
NHC 2023
EXISTING SIGN
EXISTING ACCESS ROAD
EXISTING "PHASE 1" PLANTING (APPROX. 40)
EXISTING "PHASE 1" PLANTING (APPROX. 20)
EXISTING "PHASE 1" PLANTING (APPROX. 45)
NHC 2024
74+00
75+00
76+00
77+00
78+00
250.0
249.0
248.0
247.0
246.0
245.0
244.0
251.0
247.8(C)
244.7(C)
244.8(C)
242.5(C)
243.0(C)
240.5(C)
240.0(C)
241.0
242.0
243.0
243.8(C)
243.4(C)
247.5(C)
246.6(C)
248.3(C)
REMOVE PIEZOMETER
INSTALL WING DEFLECTOR
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK LOG COVER 2/D-2
INSTALL WING DEFLECTOR 4/D-3
INSTALL WATER'S EDGE TREATMENT (45 LF)
CLASS A EXCAVATED MATERIAL SEE NOTE 1
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1
INSTALL ROCK STREAM BARB 3/D-4
INSTALL WATER'S EDGE TREATMENT (40 LF)
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
INSTALL BAR IWM 1/D-2
INSTALL CROSS-WEIR
246.0
245.0
244.0
247.0
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX.
246.6 TOP
249.1 TOP
249.9 TOP
10:1 SLOPE
LIMIT OF WORK
MATCHLINE - SEE SHEET G-14
MATCHLINE - SEE SHEET G-12
MATCHLINE - SEE SHEET G-16
SCALE 1"=20'
0 20 40 60

AS BUILT
PROJECT SUPERVISOR
BY ____
DATE ____

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E. Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN JH/KC
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

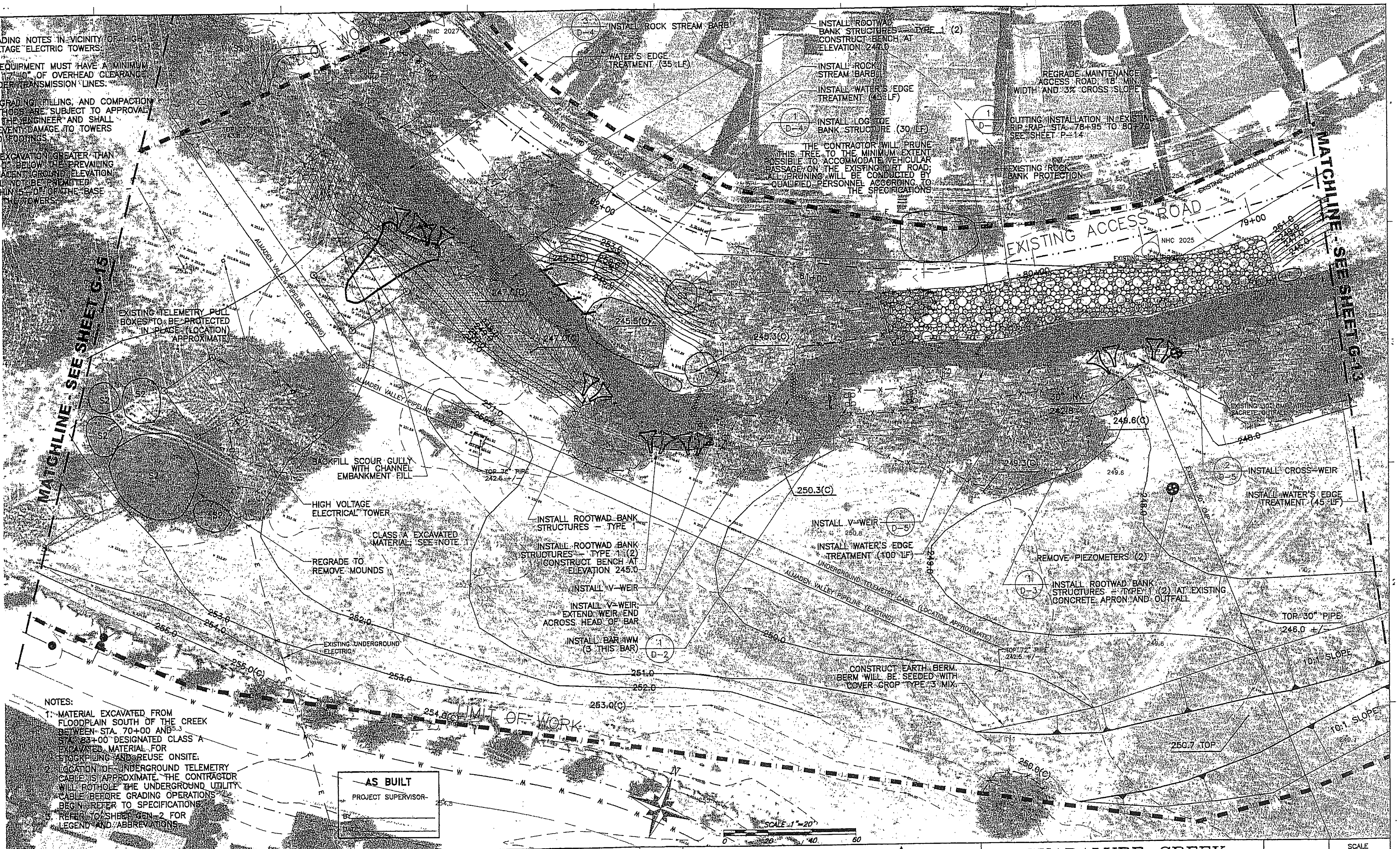
VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN
SHEET AB
G-13
16 OF 52

Plot Date: Thu 28 Feb 2002 - 8:06am
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\SH_G-13-AB.dwg

GRADING NOTES IN VICINITY OF HIGH VOLTAGE ELECTRIC TOWERS:

1. EQUIPMENT MUST HAVE A MINIMUM OF 17'-0" OF OVERHEAD CLEARANCE UNDER TRANSMISSION LINES.
2. GRADING, FILLING, AND COMPACTION METHODS ARE SUBJECT TO APPROVAL BY THE ENGINEER AND SHALL PREVENT DAMAGE TO TOWERS AND FOOTINGS.
3. EXCAVATION GREATER THAN 1'-0" BELOW THE PREVAILING ADJACENT GROUND ELEVATION WILL NOT BE PREMITTED WITHIN 5'-0" OF THE BASE OF THE TOWERS.


NHC 2027
3 D-4 INSTALL ROCK STREAM BARB
3 D-1 WATER'S EDGE TREATMENT (35 LF)
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 247.0
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (45 LF)
1 D-4 INSTALL LOG TOE BANK STRUCTURE (30 LF)
THE CONTRACTOR WILL PRUNE THIS TREE TO THE MINIMUM EXTENT POSSIBLE TO ACCOMMODATE VEHICULAR PASSAGE ON THE EXISTING DIRT ROAD; ALL PRUNING WILL BE CONDUCTED BY QUALIFIED PERSONNEL ACCORDING TO THE SPECIFICATIONS
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN. WIDTH AND 3% CROSS SLOPE
1 D-7 CUTTING INSTALLATION IN EXISTING RIP RAP, STA. 78+95 TO 80+70 SEE SHEET P-14
EXISTING ROCK BANK PROTECTION
EXISTING SCVWD RIGHT-OF-WAY
EXISTING ACCESS ROAD
NHC 2025
82+00
81+00
80+00
79+00
MATCHLINE - SEE SHEET G-13
MATCHLINE - SEE SHEET G-15
LIMIT OF WORK
ALMADEN VALLEY PIPELINE (EXISTING)
EXISTING TELEMETRY PULL BOXES TO BE PROTECTED IN PLACE (LOCATION APPROXIMATE)
247.0(C)
245.5(C)
245.3(C)
253.0
251.0
250.0
249.6(C)
249.3(C)
250.3(C)
249.6
248.0
246.0
250.8
S2
S1
BACKFILL SCOUR GULLY WITH CHANNEL EMBANKMENT FILL
TOP 72" PIPE 242.6 +/-
HIGH VOLTAGE ELECTRICAL TOWER
CLASS A EXCAVATED MATERIAL SEE NOTE 1
REGRADE TO REMOVE MOUNDS
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 245.0
INSTALL V-WEIR
INSTALL V-WEIR; EXTEND WEIR END ACROSS HEAD OF BAR
1 D-2 INSTALL BAR IWM (3 THIS BAR)
1 D-5 INSTALL V-WEIR
INSTALL WATER'S EDGE TREATMENT (100 LF)
UNDERGROUND TELEMETRY CABLE (LOCATION APPROXIMATE)
REMOVE PIEZOMETERS (2)
1 D-3 INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) AT EXISTING CONCRETE APRON AND OUTFALL
2 D-5 INSTALL CROSS-WEIR
INSTALL WATER'S EDGE TREATMENT (45 LF)
EXISTING 30" CMP
EXISTING 30" CMP SACRETE OUTFALL
TOP 30" PIPE 246.0 +/-
TOP 72" PIPE 242.6 +/-
10:1 SLOPE
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX
EXISTING UNDERGROUND ELECTRIC
255.0(C)
254.0
253.0
252.0
251.0
253.0(C)
254.0(C)
250.0(C)
250.7 TOP
SCALE 1"=20'
0 20 40 60

NOTES:

1. MATERIAL EXCAVATED FROM FLOODPLAIN SOUTH OF THE CREEK BETWEEN STA. 70+00 AND STA. 83+00 DESIGNATED CLASS A EXCAVATED MATERIAL FOR STOCKPILING AND REUSE ONSITE.
2. LOCATION OF UNDERGROUND TELEMETRY CABLE IS APPROXIMATE. THE CONTRACTOR WILL POTHOLE THE UNDERGROUND UTILITY CABLE BEFORE GRADING OPERATIONS BEGIN. REFER TO SPECIFICATIONS.
3. REFER TO SHEET GEN-2 FOR LEGEND AND ABBREVIATIONS.

AS BUILT
PROJECT SUPERVISOR-
BY
DATE

Plot Date: Wed 27 Feb 2002 - 10:05pm
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-14-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/10/01 ***
DATE

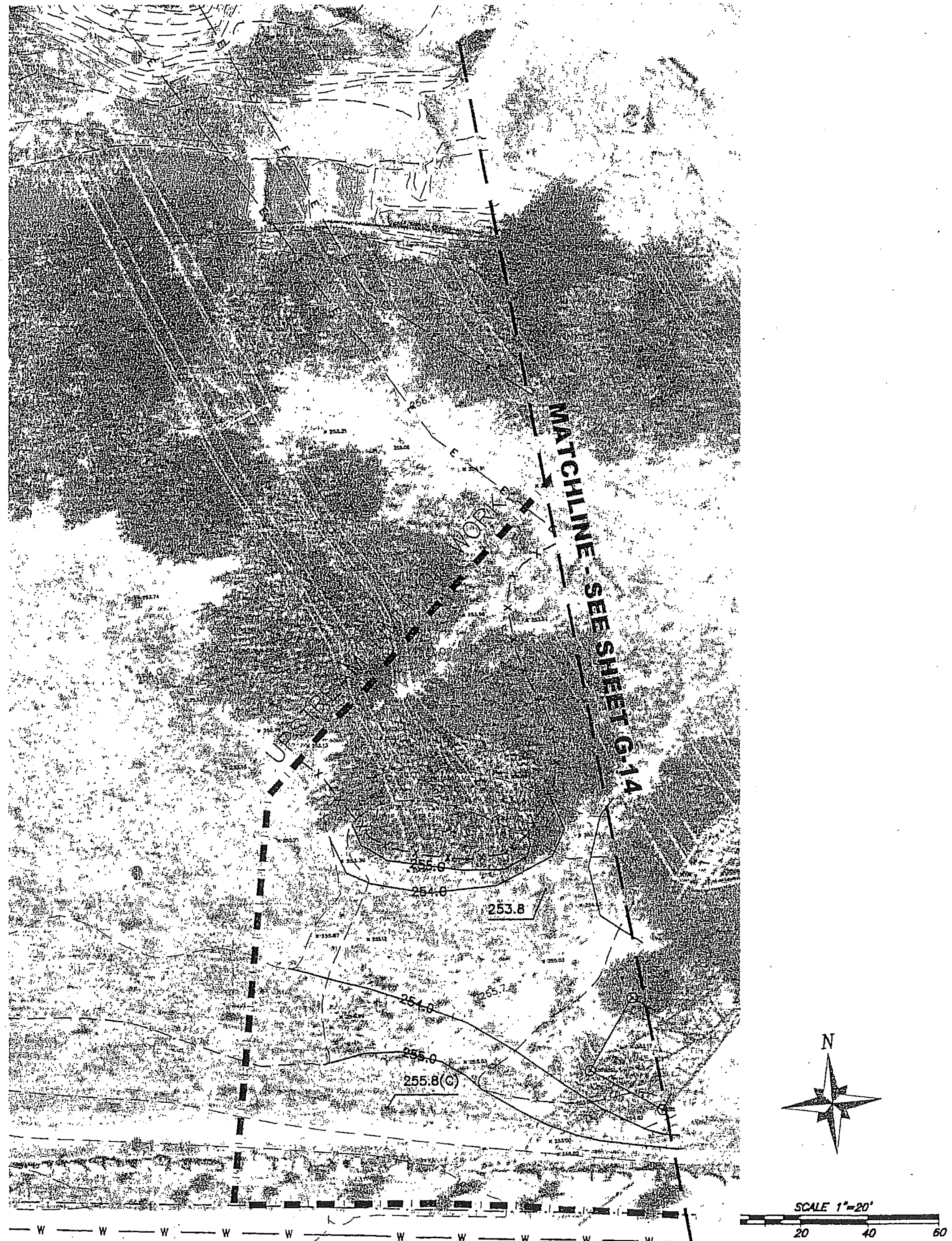
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-14
17 OF 52



NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

AS BUILT
PROJECT SUPERVISOR
BY________________
DATE________________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

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Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	EW/JH
DRAWN	BH/BK/JS
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***

*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

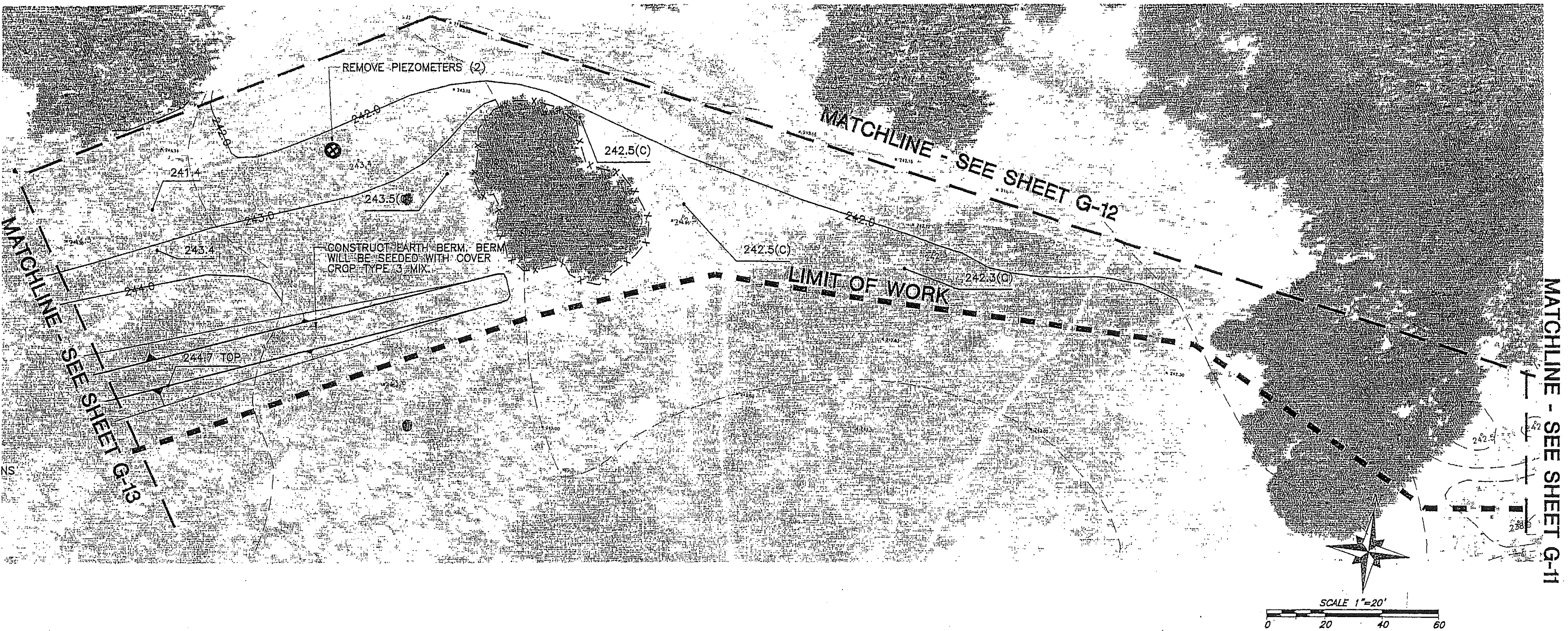
GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
G-15
18 OF 52

Plot Date: Thu 28 Feb 2002 - 12:02am
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_G-15-AB.dwg


REMOVE PIEZOMETERS (2)
242.0
242.0
241.4
243.5(C)
243.0
243.4
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX.
244.0
244.7 TOP
242.5(C)
242.5(C)
242.0
242.3(C)
LIMIT OF WORK
MATCHLINE - SEE SHEET G-12
MATCHLINE - SEE SHEET G-13
MATCHLINE - SEE SHEET G-11
242.5
SCALE 1"=20'
0
20
40
60

NOTES:

1. REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

EDWARD E. WALLACE
52301
EXP. 12/31/04

DATE 04/16/01
DESIGN EW/JH
DRAWN BH/BK/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
4/16/01
DATE

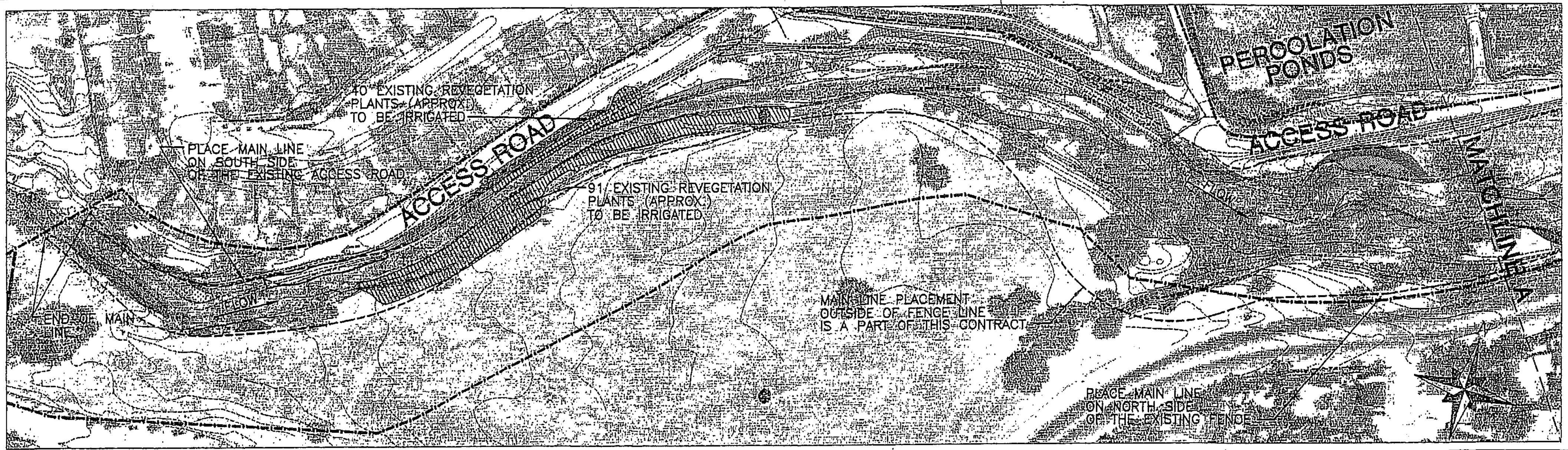
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
G-16
19 OF 52


40 EXISTING REVEGETATION PLANTS (APPROX.) TO BE IRRIGATED
PLACE MAIN LINE ON SOUTH SIDE OF THE EXISTING ACCESS ROAD
ACCESS ROAD
91 EXISTING REVEGETATION PLANTS (APPROX.) TO BE IRRIGATED
FLOW
END OF MAIN LINE
MAIN LINE PLACEMENT OUTSIDE OF FENCE LINE IS A PART OF THIS CONTRACT
PERCOLATION PONDS
ACCESS ROAD
FLOW
MATCHLINE A
PLACE MAIN LINE ON NORTH SIDE OF THE EXISTING FENCE

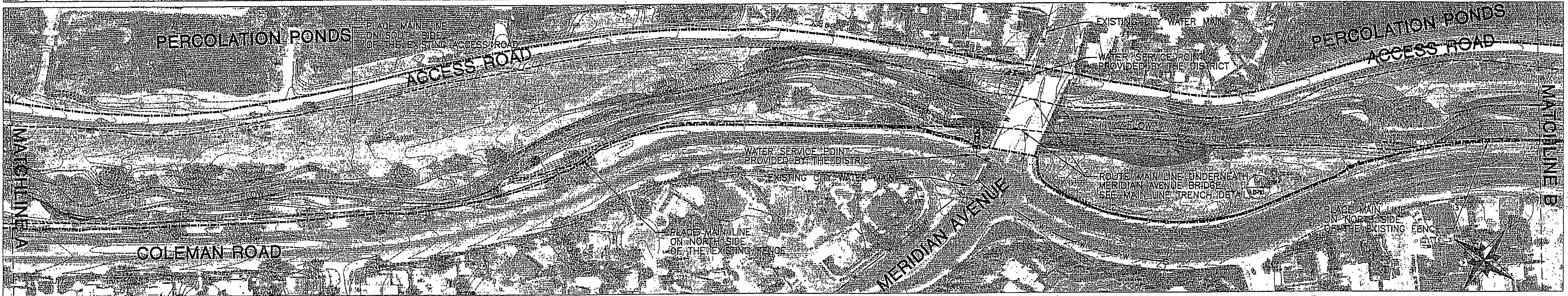
SCALE 1"=100-0"

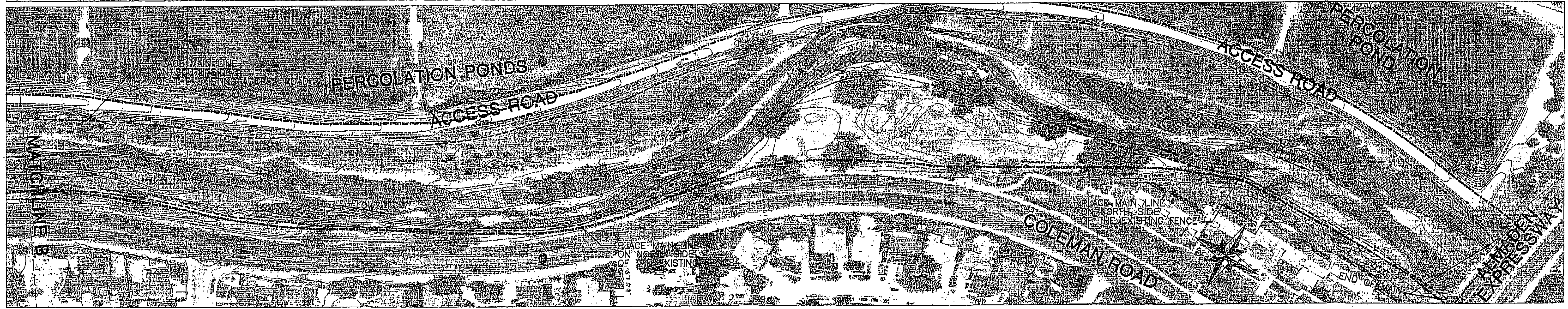
0 100 200 300

SYMBOL	DESCRIPTION
⊕	WATER SERVICE POINT
⋈	BALL VALVE
◩	BACK FLOW ASSEMBLY
M	METER (PROVIDED BY THE CITY)
-----	LAYOUT OF PRIMARY MAIN LINE, 3" SIZE
▨	EXISTING REVEGETATION PLANTINGS TO BE IRRIGATED
▦	CONTAINER PLANTS AND TRANSPLANTS TO BE IRRIGATED, PLANTING ZONES C AND D ACCORDING TO SHEET P1–P15.

NOTES:

1. IRRIGATION EQUIPMENT IS SHOWN PARTIALLY DIAGRAMMATIC FOR GRAPHIC CLARITY.
2. PLANTING AREAS SHOWN ARE APPROXIMATE. VERIFY PLANT AREAS WITH THE PLANTING PLANS AND VERIFY EXACT LOCATIONS IN THE FIELD.
3. PLACE MAIN LINE AT THE TOP OF BANK WHENEVER POSSIBLE.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL IRRIGATION REQUIREMENTS.


PERCOLATION PONDS
PLACE MAIN LINE ON SOUTH SIDE OF THE EXISTING ACCESS ROAD
ACCESS ROAD
MATCHLINE A
WATER SERVICE POINT PROVIDED BY THE DISTRICT
EXISTING CITY WATER MAIN
PLACE MAIN LINE ON NORTH SIDE OF THE EXISTING FENCE
COLEMAN ROAD
MERIDIAN AVENUE
EXISTING CITY WATER MAIN
WATER SERVICE POINT PROVIDED BY THE DISTRICT
FLOW
ROUTE MAIN LINE UNDERNEATH MERIDIAN AVENUE BRIDGE SEE MAIN LINE TRENCH DETAIL
PERCOLATION PONDS
ACCESS ROAD
PLACE MAIN LINE ON NORTH SIDE OF THE EXISTING FENCE
MATCHLINE B


MATCHLINE B
PLACE MAIN LINE ON SOUTH SIDE OF THE EXISTING ACCESS ROAD
PERCOLATION PONDS
ACCESS ROAD
FLOW
PLACE MAIN LINE ON NORTH SIDE OF THE EXISTING FENCE
PERCOLATION POND
ACCESS ROAD
FLOW
PLACE MAIN LINE ON NORTH SIDE OF THE EXISTING FENCE
COLEMAN ROAD
END OF MAIN
ALMADEN EXPRESSWAY

REV	DESCRIPTION	DATE	APPR

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691–3430

JOHN A. ZANZI No. 2933
5.31.02
4.13.01

DATE 04/16/01
DESIGN AF/JZ
DRAWN BK
CHECKED JZ

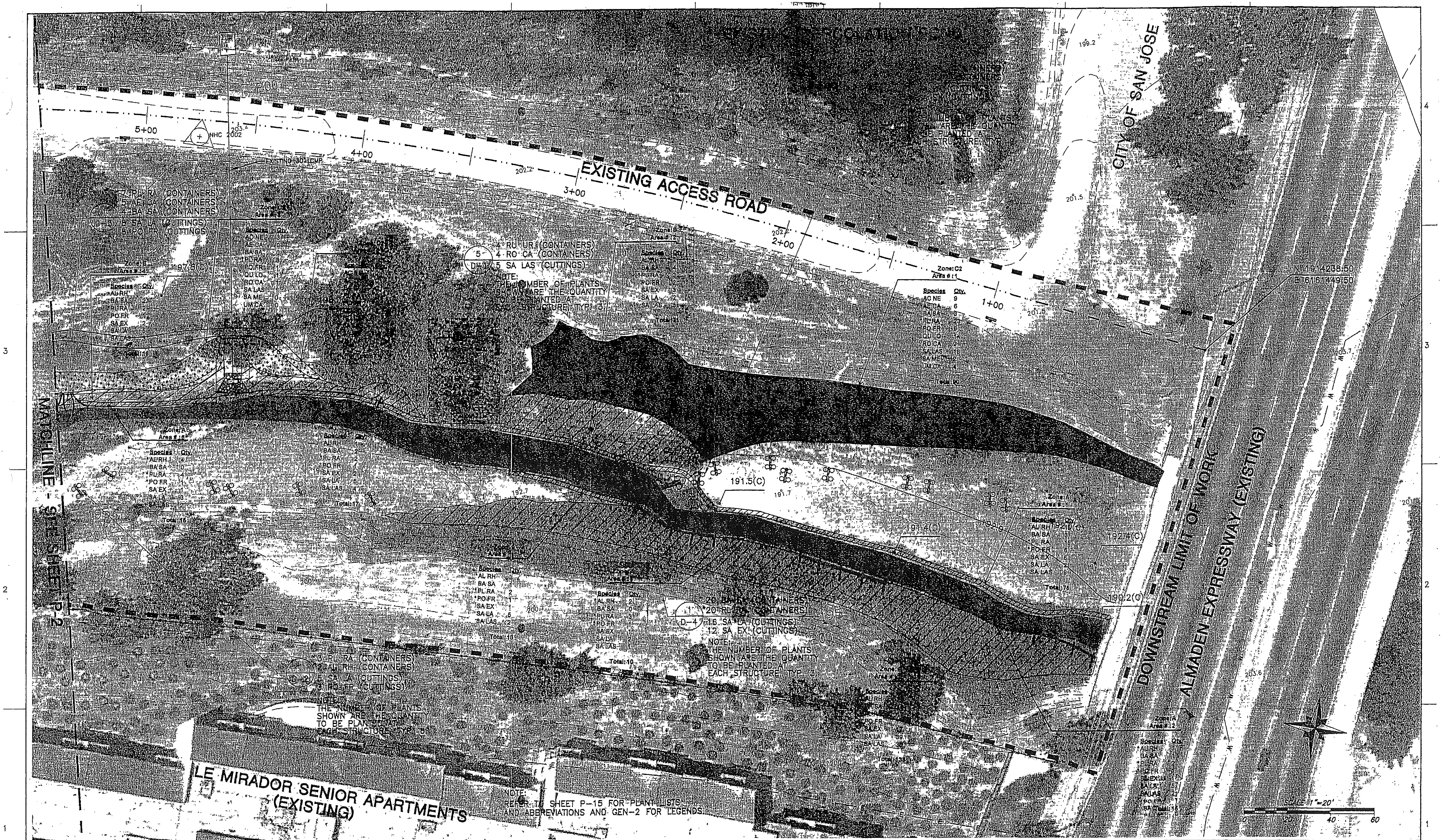
Santa Clara Valley Water District
ACCEPTED BY DISTRICT
4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

SCHEMATIC IRRIGATION PLAN

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN
SHEET
I–1
20 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend		
	For Listing of Plant Abbreviations See P-15		
	* Plants to be Installed Spring 2002		
	CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

JOHN A. ZANZI No. 2933
5.31.02
4.13.01

DATE
04/16/01
DESIGN
AR/JB
DRAWN
BH/CJ/BK
CHECKED
EW/JZ

Santa Clara Valley Water District

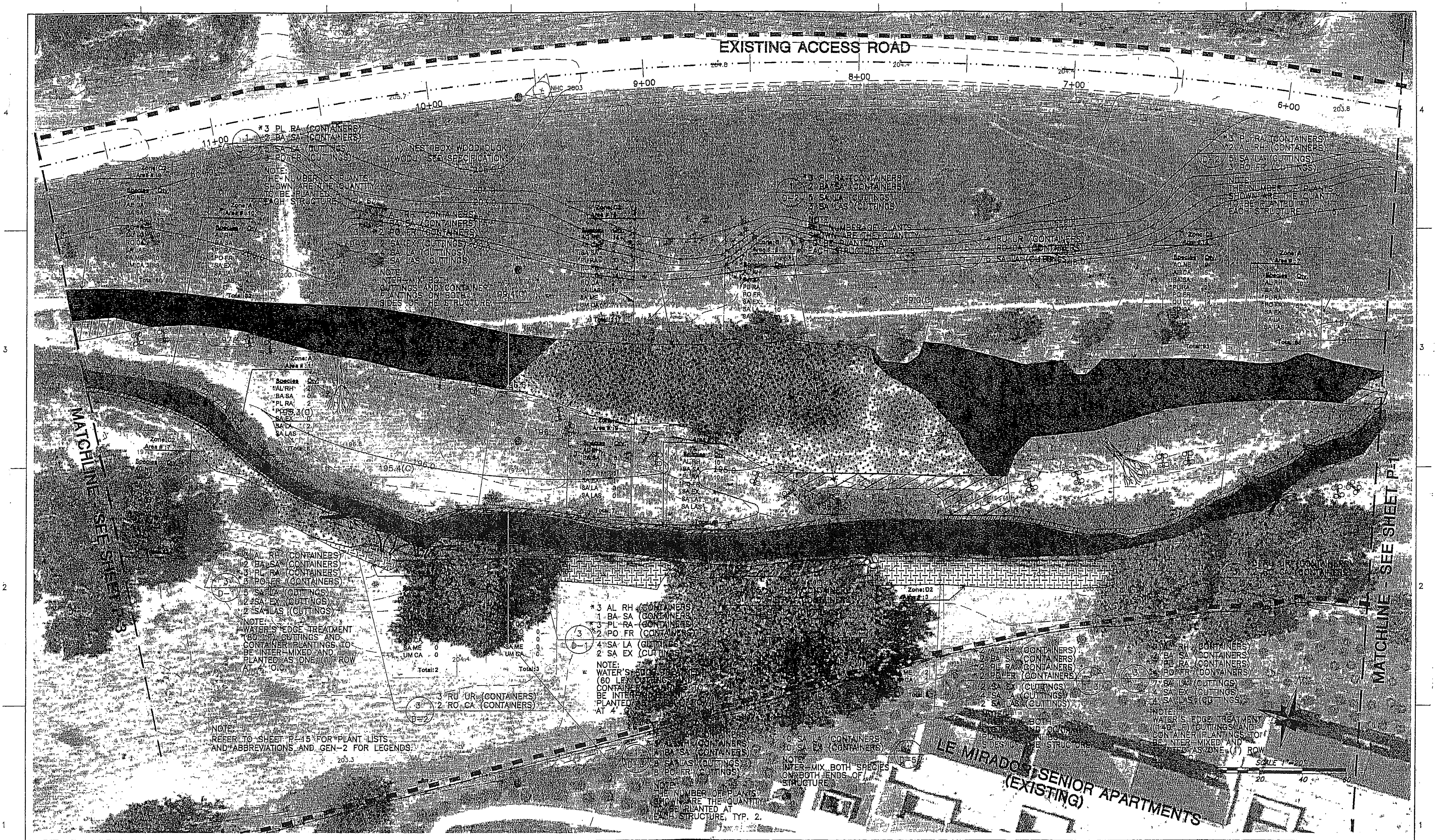
ACCEPTED BY DISTRICT
4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN
SHEET
P-1
21 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A : Channel Realignment Areas Zone A		

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northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
Signature
5.31.02
Renewal Date
4.12.01
Date
STATE OF CALIFORNIA

DATE 04/16/01
DESIGN AR/JB
DRAWN BH/CJ/BK
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
Allen M. Grund
4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

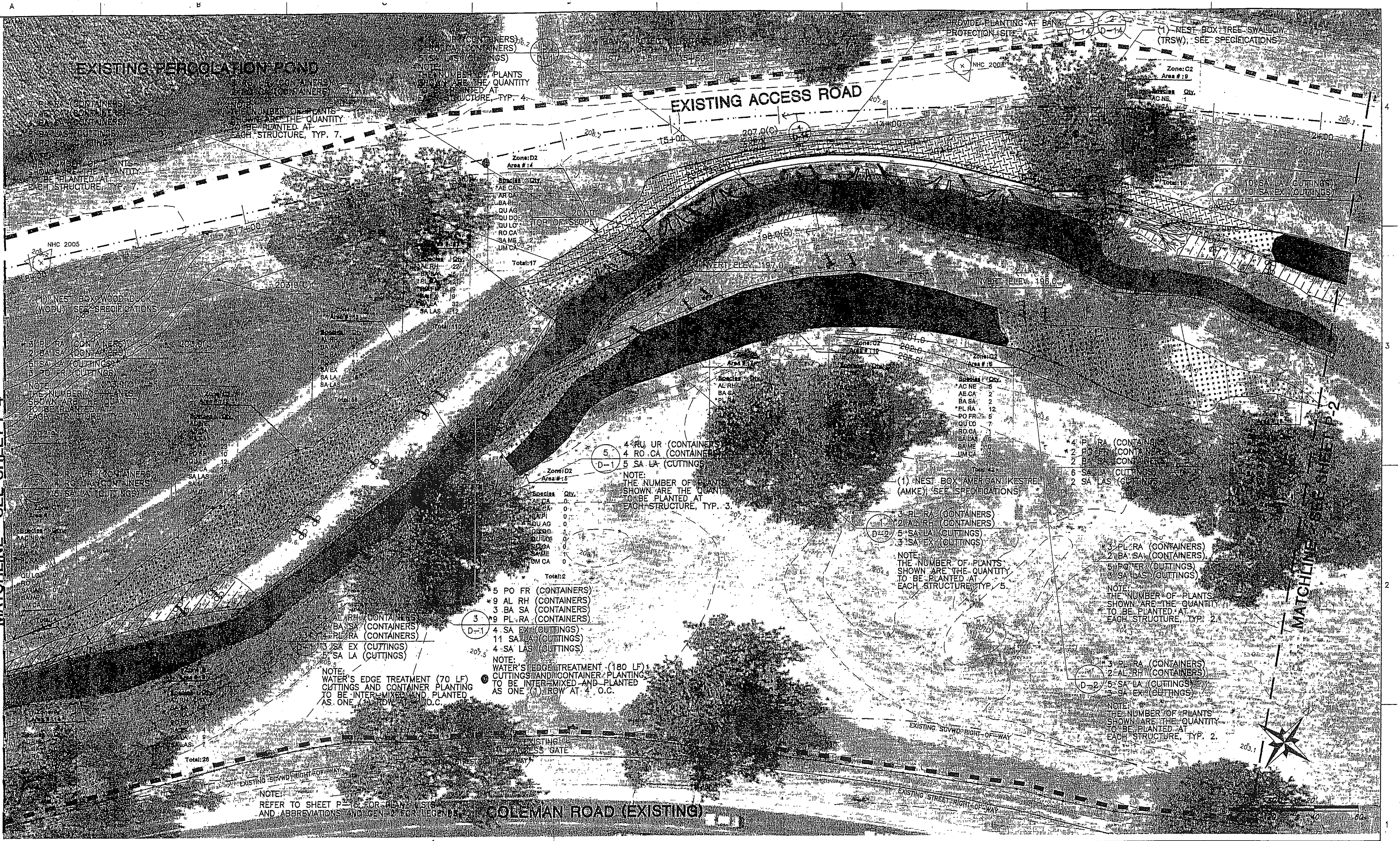
PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN

SHEET P-2

22 OF 52


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
PROVIDE PLANTING AT BANK PROTECTION SITE A
(1) NEST BOX TREE SWALLOW (TRSW), SEE SPECIFICATIONS
NHC 2004
NHC 2005
Zone: D2 Area # 14
Zone: C2 Area # 9
TOP OF SLOPE
INVERT ELEV. 197.0
INVERT ELEV. 196.0
198.0(C)
207.0(C)
(1) NEST BOX WOOD DUCK (WODU) SEE SPECIFICATIONS
3 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
10 SA LA (CUTTINGS)
10 SA EX (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 7.
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 4.
4 RU UR (CONTAINERS)
4 RO CA (CONTAINERS)
5 SA LA (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 3.
Zone: D2 Area # 5
Total: 2
Zone: C2 Area # 10
Zone: C2 Area # 8
Total: 42
Total: 17
Total: 28
(1) NEST BOX AMERICAN KESTREL (AMKE) SEE SPECIFICATIONS
3 PL RA (CONTAINERS)
2 AL RH (CONTAINERS)
5 SA LA (CUTTINGS)
3 SA EX (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 5.
4 PL RA (CONTAINERS)
2 PO FR (CONTAINERS)
2 BA SA (CONTAINERS)
6 SA LA (CUTTINGS)
2 SA LAS (CUTTINGS)
3 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
5 PO FR (CUTTINGS)
3 SA LAS (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2.
3 PL RA (CONTAINERS)
2 AL RH (CONTAINERS)
5 SA LA (CUTTINGS)
3 SA EX (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2.
5 PO FR (CONTAINERS)
*9 AL RH (CONTAINERS)
3 BA SA (CONTAINERS)
*9 PL RA (CONTAINERS)
4 SA EX (CUTTINGS)
11 SA LA (CUTTINGS)
4 SA LAS (CUTTINGS)
NOTE: WATER'S EDGE TREATMENT (180 LF) CUTTINGS AND CONTAINER PLANTING TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
AL RH (CONTAINERS)
BA SA (CONTAINERS)
PL RA (CONTAINERS)
3 SA EX (CUTTINGS)
5 SA LA (CUTTINGS)
NOTE: WATER'S EDGE TREATMENT (70 LF) CUTTINGS AND CONTAINER PLANTING TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
Species Qty.
AC NE 5
AE CA 2
BA SA 2
*PL RA 12
PO FR 5
QU LO 7
RO CA 0
SA LAS 0
SAME 0
UM CA 0
3 D-1
5 D-1
D-2
D-14
EXISTING SCVWD RIGHT-OF-WAY
EXISTING ACCESS GATE
EXISTING STREET RIGHT-OF-WAY
NOTE: REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS.
COLEMAN ROAD (EXISTING)
MATCHLINE - SEE SHEET P-4
MATCHLINE - SEE SHEET P-2
0 20 40 60

REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A : Channel Realignment Areas Zone A		

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west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
5-31-02
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

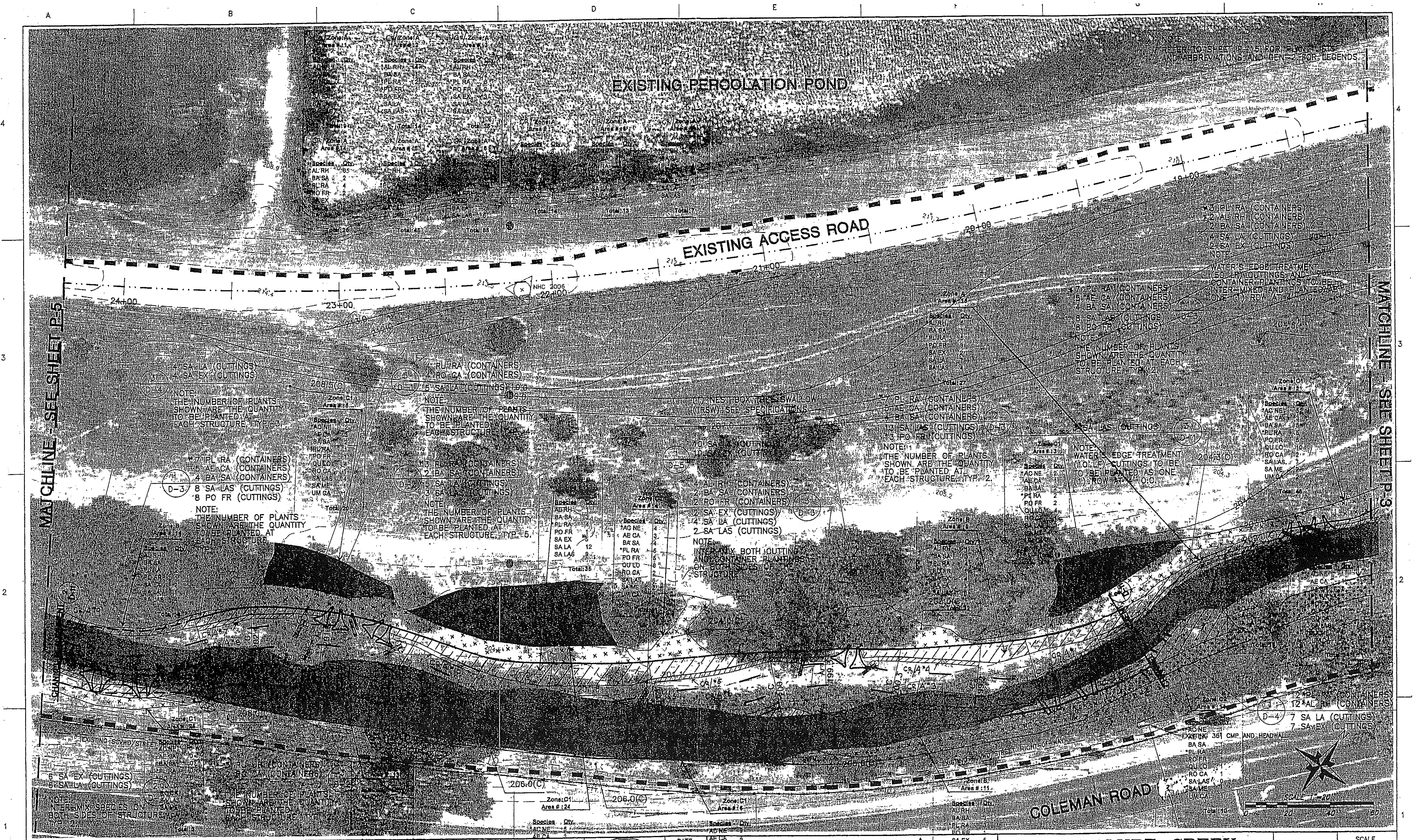
PLANTING PLAN (As-Built)

2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-3
23 OF 52


REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS.
EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET P-5
MATCHLINE - SEE SHEET P-3
COLEMAN ROAD
24+00
23+00
22+00
21+00
20+00
19+00
NHC 2006
4 SA LA (CUTTINGS)
4 SA EX (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 3.
7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
4 BA SA (CONTAINERS)
8 SA LAS (CUTTINGS)
8 PO FR (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE.
RU RA (CONTAINERS)
RO CA (CONTAINERS)
5 SA LA (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 4.
2 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
5 SA LAS (CUTTINGS)
3 SA LAS (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 5.
(T) NEST BOX, TREE SWALLOW (TRSW) SEE SPECIFICATIONS
10 SA LA (CUTTINGS)
10 SA EX (CUTTINGS)
4 AL RH (CONTAINERS)
2 BA SA (CONTAINERS)
2 PO FR (CONTAINERS)
2 SA EX (CUTTINGS)
2 SA LA (CUTTINGS)
2 SA LAS (CUTTINGS)
NOTE: INTERMIX BOTH CUTTINGS AND CONTAINER PLANTS ON BOTH SIDES OF STRUCTURE.
7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
4 BA SA (CONTAINERS)
13 SA LAS (CUTTINGS)
13 PO FR (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2.
SA LAS (CUTTINGS)
NOTE: WATER'S EDGE TREATMENT (W.E.) CUTTINGS TO BE PLANTED AS ONE (1) ROW AT 4' O.C.
7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
4 BA SA (CONTAINERS)
8 SA LAS (CUTTINGS)
8 PO FR (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 4.
2 PL RA (CONTAINERS)
2 AL RH (CONTAINERS)
2 BA SA (CONTAINERS)
4 SA LA (CUTTINGS)
4 SA EX (CUTTINGS)
NOTE: WATER'S EDGE TREATMENT CONTAINER PLANTINGS TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
12 PL RA (CONTAINERS)
12 AL RH (CONTAINERS)
7 SA LA (CUTTINGS)
7 SA EX (CUTTINGS)
EXISTING 36" CMP AND HEADWALL
6 SA EX (CUTTINGS)
6 SA LA (CUTTINGS)
NOTE: INTER-MIX SPECIES ON BOTH SIDES OF STRUCTURE, TYP. 2.
AL RH (CONTAINERS)
PL RA (CONTAINERS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2.
D-1
D-2
D-3
D-4
D-5
208.5(C)
207.0
206.0(C)
208.0(C)
Zone: C1 Area # : 24
Zone: C1 Area # : 6
Zone: B Area # : 11
Zone: B Area # : 13
Species Qty.
Total: 35
Total: 10
CR/A
SCALE 1" = 20'
0 20 40 60

SA LAS 10
Total: 42

Species	Qty.
AC NE	5
AE CA	2
BA SA	5
*PL RA	5
*PO FR	5
QU LO	10
RO CA	2
SA LAS	8
SA ME	2
UM CA	3

Total: 48

Species	Qty.
AC NE	9
AE CA	4
BA SA	9
PL RA	9
PO FR	9
QU LO	21
RO CA	5
SA LAS	17
SA ME	5
UM CA	5

Total: 93

SA EX	5
SA LA	10
SA LAS	8

Total: 31

REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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nhc
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

JOHN A. ZANZI No. 2931
5.31.02
4-13-01

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

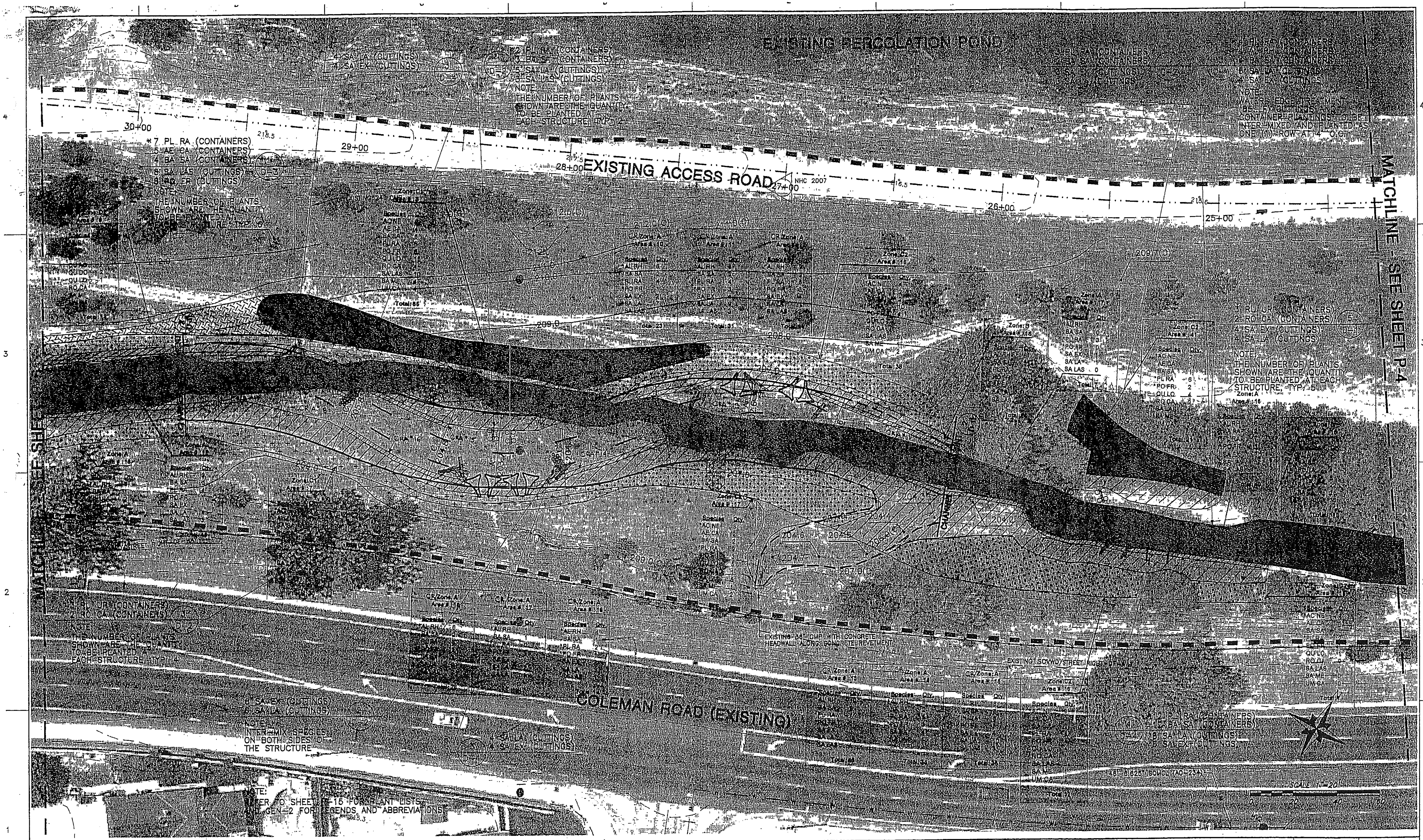
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-4
24 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-16 * Plants to be Installed Spring 2002 CR/A (Channel Realignment Areas Zone A		

Jones & Stokes
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3436

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
STATE OF CALIFORNIA
5-31-02
4-13-01

DATE 04/16/01
DESIGN AR/JB
DRAWN BH/CJ/BK
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

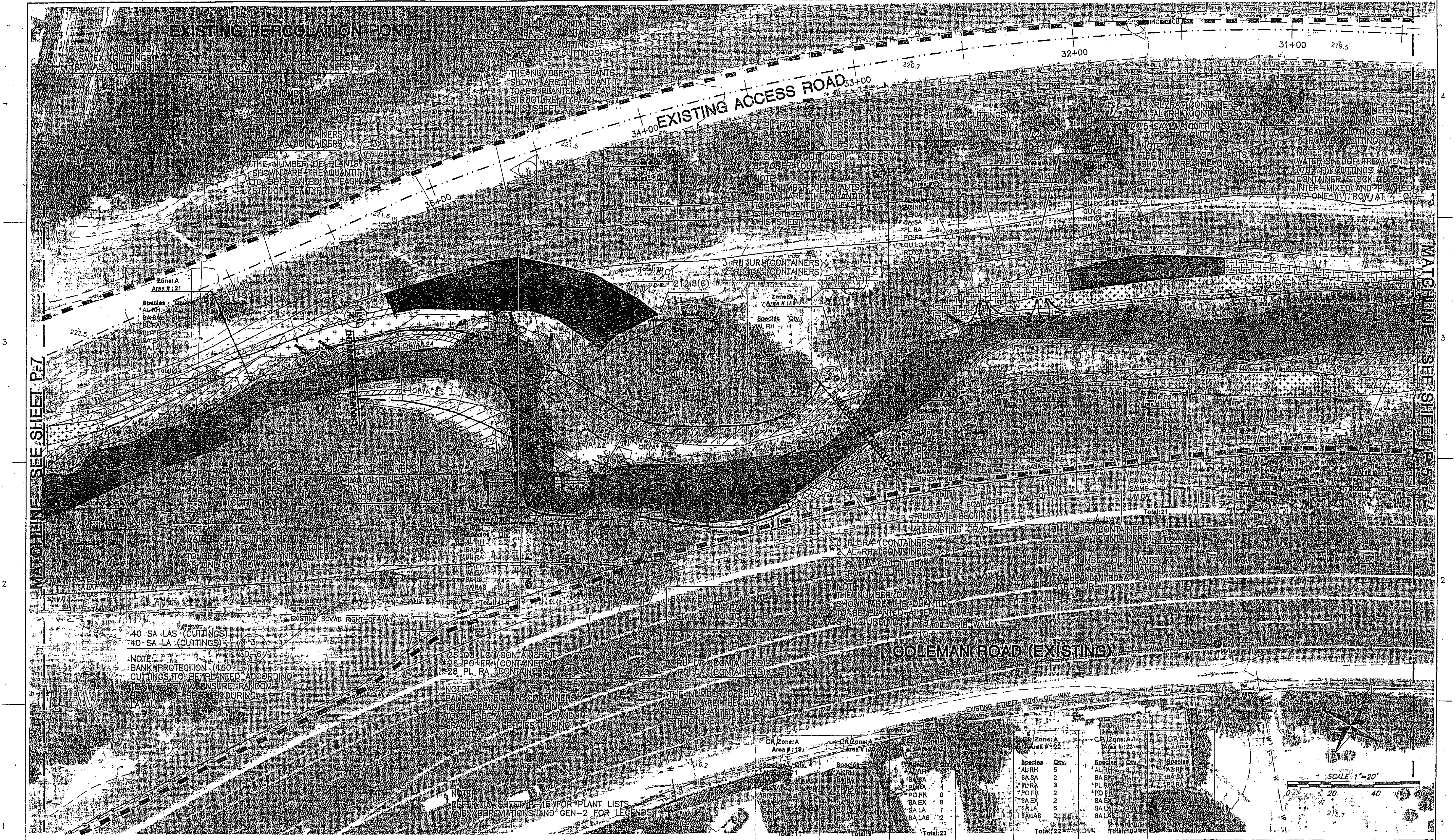
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-5
25 OF 52


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
COLEMAN ROAD (EXISTING)
MATCHLINE - SEE SHEET P-7
MATCHLINE - SEE SHEET P-5
35+00
34+00
33+00
32+00
31+00
NOTE:
THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2
40 SA LAS (CUTTINGS)
40 SA LA (CUTTINGS)
NOTE:
BANK PROTECTION (160 LF)
CUTTINGS TO BE PLANTED ACCORDING TO DETAIL. ENSURE RANDOM SPACING OF SPECIES DURING LAYOUT.
26 QU LO (CONTAINERS)
26 PO FR (CONTAINERS)
26 PL RA (CONTAINERS)
NOTE:
BANK PROTECTION CONTAINERS TO BE PLANTED ACCORDING TO DETAIL. ENSURE RANDOM SPACING OF SPECIES DURING LAYOUT.
NOTE:
WATER'S EDGE TREATMENT (70 LF) CUTTINGS AND CONTAINER STOCK TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
3 RU UR (CONTAINERS)
2 RO CA (CONTAINERS)
EXISTING SCVWD RIGHT-OF-WAY
EXISTING STREET RIGHT-OF-WAY
TRUNCATED SECTION
AT EXISTING GRADE
TOP OF CRIB WALL
BANK PROTECTION SITE SOUTH BANK
NOTE:
REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS
Zone: A
Species
Qty.
Total: 11
Total: 9
Total: 23
Total: 22
Total: 10
Total: 21
SCALE 1"=20'
0
20
40

REV	DESCRIPTION	DATE	APPR
	Legend		
	For Listing of Plant Abbreviations See P-15		
	* Plants to be Installed Spring 2002		
	CR/A : Channel Realignment Areas Zone A		

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west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2931
5-31-02
4-15-01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN

VERIFY SCALES
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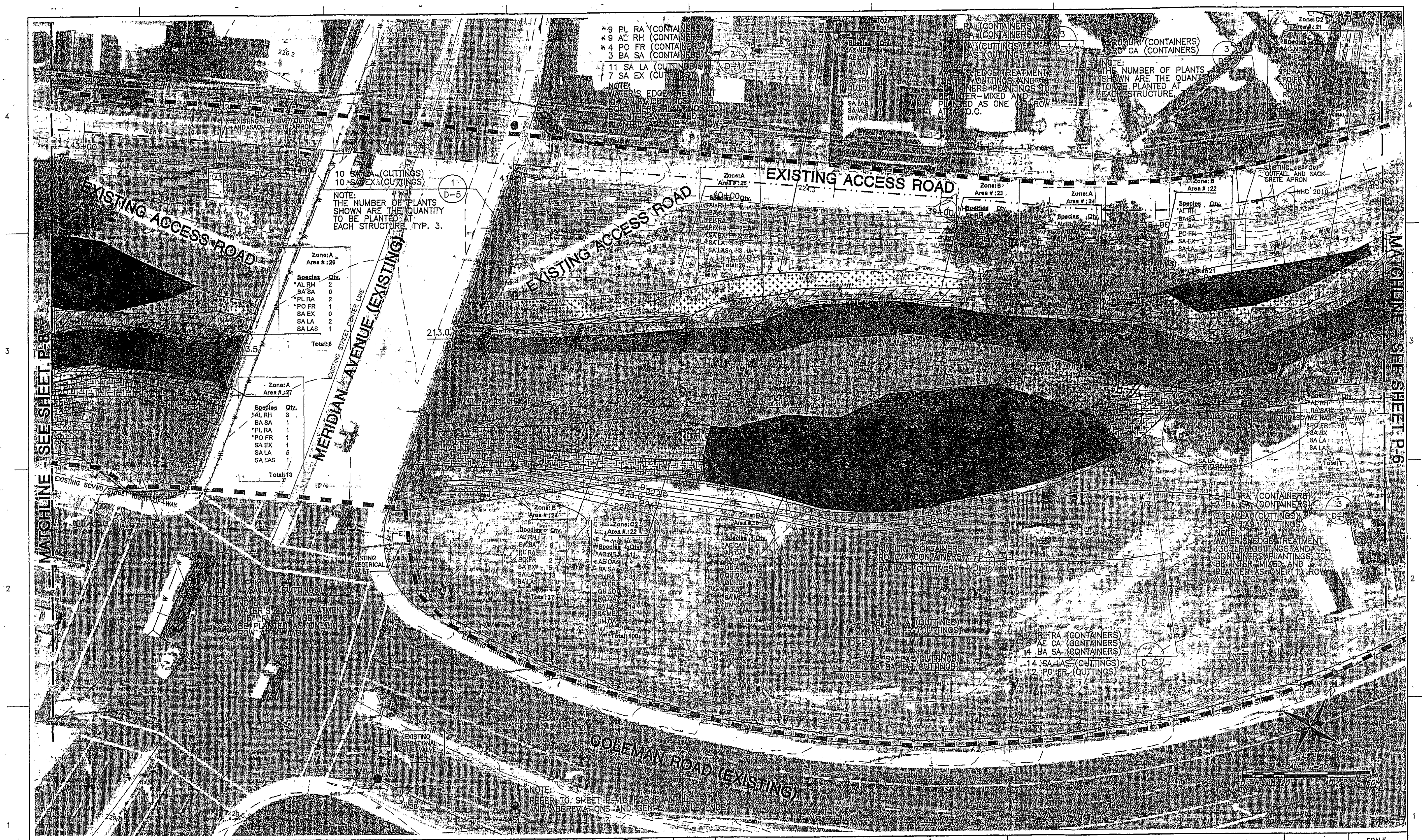
SCALE
AS SHOWN

SHEET
P-6
26 OF 52


MATCHLINE – SEE SHEET P-8
MATCHLINE – SEE SHEET P-6
EXISTING ACCESS ROAD
EXISTING ACCESS ROAD
EXISTING ACCESS ROAD
MERIDIAN AVENUE (EXISTING)
EXISTING STREET CENTER LINE
COLEMAN ROAD (EXISTING)
EXISTING SCVWD/STREET RIGHT-OF-WAY
EXISTING SCVWD RIGHT-OF-WAY
EXISTING STREET RIGHT-OF-WAY
EXISTING ELECTRICAL VAULT
EXISTING OPERATIONAL CONE VALVE
EXISTING 18" CMP OUTFALL AND SACK-CRETE APRON
EXISTING 18" CMP OUTFALL AND SACK-CRETE APRON
NHC 2010
43+00
42+00
41+00
40+00
39+00
38+00
37+00
*9 PL RA (CONTAINERS)
*9 AL RH (CONTAINERS)
*4 PO FR (CONTAINERS)
3 BA SA (CONTAINERS)
11 SA LA (CUTTINGS)
7 SA EX (CUTTINGS)
3 D-1
NOTE: WATER'S EDGE TREATMENT (170 LF) CUTTINGS AND CONTAINERS PLANTINGS TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
7 PL RA (CONTAINERS)
4 BA SA (CONTAINERS)
3 SA LA (CUTTINGS)
2 SA LAS (CUTTINGS)
3 D-1
NOTE: WATER'S EDGE TREATMENT CUTTINGS AND CONTAINERS PLANTINGS TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
RU UR (CONTAINERS)
4 RO CA (CONTAINERS)
3 D-2
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2
10 SA LA (CUTTINGS)
10 SA EX (CUTTINGS)
1 D-5
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 3.
Zone:A Area # :26 Species Qty. *AL RH 2 BA SA 0 *PL RA 2 *PO FR 1 SA EX 0 SA LA 2 SA LAS 1 Total:8
Zone:A Area # :27 Species Qty. *AL RH 3 BA SA 1 *PL RA 1 *PO FR 1 SA EX 1 SA LA 5 SA LAS 1 Total:13
Zone:B Area # :22 Species Qty. AL RH 1 BA SA 3 PL RA 2 PO FR 1 SA EX 3 SA LA 7 SA LAS 4 Total:21
Zone:B Area # :24 Species Qty. AL RH 1 BA SA 3 PL RA 4 PO FR 2 SA EX 5 SA LA 13 SA LAS 9 Total:37
Zone:C2 Area # :22 Species Qty. *AC NE 11 AE CA 4 BA SA 5 *PL RA 31 PO FR 1 QU LO 14 RO CA 2 SA LAS 14 SA ME 2 UM CA 8 Total:100
Zone:D2 Area # :5 Species Qty. *AE CA 0 AR CA 1 BA PI 1 QU AG 12 QU DO 2 QU LO 2 RO CA 2 SA ME 3 UM CA 1 Total:24
Zone:A Area # :22 Species Qty. AL RH 1 BA SA 1 PO FR 0 SA EX 1 SA LA 1 SA LAS 0 Total:6
Zone:C2 Area # :23
Zone:C2 Area # :21
Zone:A Area # :25
Zone:B Area # :23
Zone:A Area # :24
Total:9
4 RU UR (CONTAINERS)
4 RO CA (CONTAINERS)
7 SA LAS (CUTTINGS)
5 D-1
6 SA LA (CUTTINGS)
6 PO FR (CUTTINGS)
2 D-2
8 SA EX (CUTTINGS)
8 SA LA (CUTTINGS)
2 D-5
*7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
4 BA SA (CONTAINERS)
14 SA LAS (CUTTINGS)
12 PO FR (CUTTINGS)
2 D-3
*3 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
2 SA LA (CUTTINGS)
1 SA LAS (CUTTINGS)
3 D-1
NOTE: WATER'S EDGE TREATMENT (30 LF) CUTTINGS AND CONTAINERS PLANTINGS TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
4 SA LA (CUTTINGS)
NOTE: WATER'S EDGE TREATMENT (15 LF) CUTTINGS TO BE PLANTED AS ONE (1) ROW AT 4' O.C.
NOTE: REFER TO SHEET P-16 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS
SCALE: 1"=20'
0 20 40 60
221.0
222.0
223.0
224.0
225.0
AV38

REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 † CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2931
5.31.02
4.13.01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

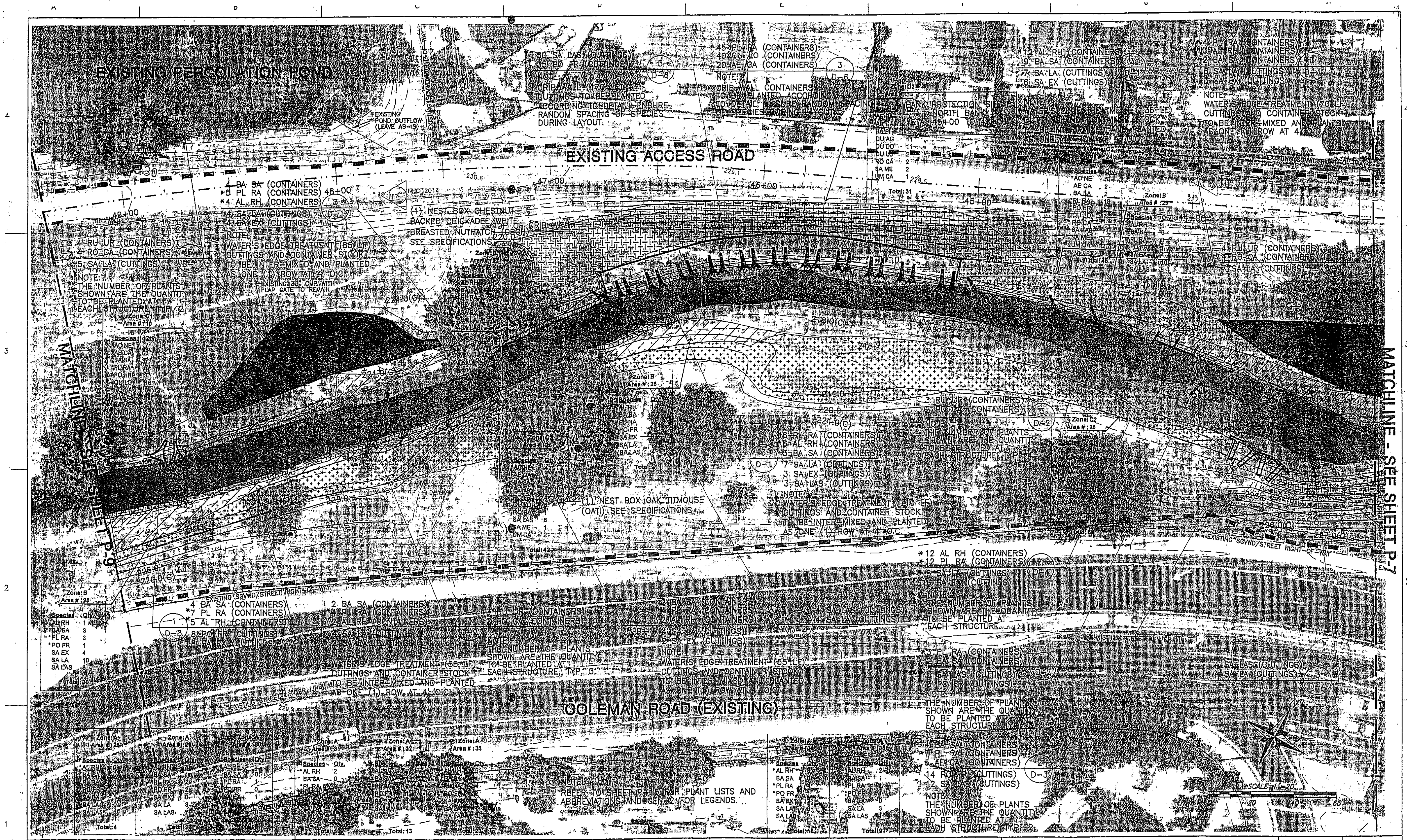
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-7
27 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend		
	For Listing of Plant Abbreviations See P-15		
	* Plants to be Installed Spring 2002		
	CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2833
5-31-02
4-15-01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

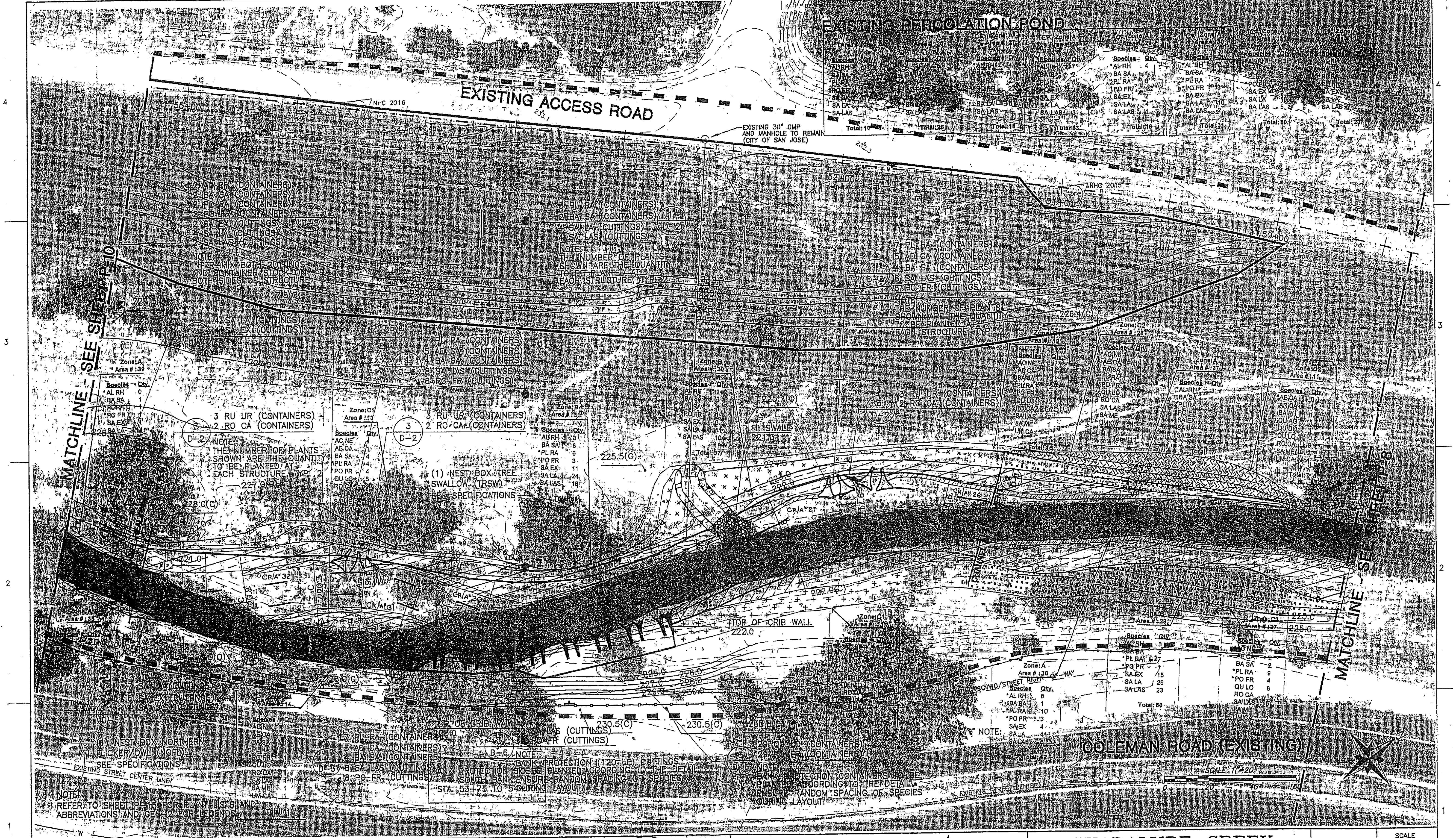
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-8
28 OF 52



EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
EXISTING 30" CMP AND MANHOLE TO REMAIN (CITY OF SAN JOSE)
NHC 2016
NHC 2015
55+00
54+00
53+00
52+00
51+00
50+00
MATCHLINE — SEE SHEET P-10
MATCHLINE — SEE SHEET P-8
2 AL RH (CONTAINERS)
2 BA SA (CONTAINERS)
2 PL RA (CONTAINERS)
2 PO FR (CONTAINERS)
2 SA EX (CUTTINGS)
2 SA LA (CUTTINGS)
2 SA LAS (CUTTINGS)
NOTE: INTER-MIX BOTH CUTTINGS AND CONTAINER STOCK ON BOTH SIDES OF STRUCTURE
3 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
4 SA LA (CUTTINGS)
4 SA LAS (CUTTINGS)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP.
7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
4 BA SA (CONTAINERS)
8 SA LAS (CUTTINGS)
8 PO FR (CUTTINGS)
4 SA LA (CUTTINGS)
4 SA EX (CUTTINGS)
3 RU UR (CONTAINERS)
2 RO CA (CONTAINERS)
(1) NEST BOX TREE SWALLOW (TRSW) SEE SPECIFICATIONS
FL SWALE
TOP OF CRIB WALL
(1) NEST BOX NORTHERN FLICKER/OWL (NOFL) SEE SPECIFICATIONS
EXISTING STREET CENTER LINE
SA LAS (CUTTINGS)
PO FR (CUTTINGS)
NOTE: BANK PROTECTION (120 LF) CUTTINGS TO BE PLANTED ACCORDING TO THE DETAIL. SOUTH BANK ENSURE RANDOM SPACING OF SPECIES STA. 53+75 TO 54+ DURING LAYOUT
29 QU LO (CONTAINERS)
29 RO CA (CONTAINERS)
NOTE: BANK PROTECTION CONTAINERS TO BE PLANTED ACCORDING TO THE DETAIL. ENSURE RANDOM SPACING OF SPECIES DURING LAYOUT.
SCWD/STREET RIGHT OF WAY
COLEMAN ROAD (EXISTING)
SCALE: 1"=20'
0 20 40 60
NOTE: REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS.

REV	DESCRIPTION	DATE	APPR

Legend

For Listing of Plant Abbreviations See P-15

CR/A | Channel Realignment Area: Zone A

*Plants to be Installed Spring 2002

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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3850 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2333
STATE OF CALIFORNIA
5-31-02
4-13-01

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

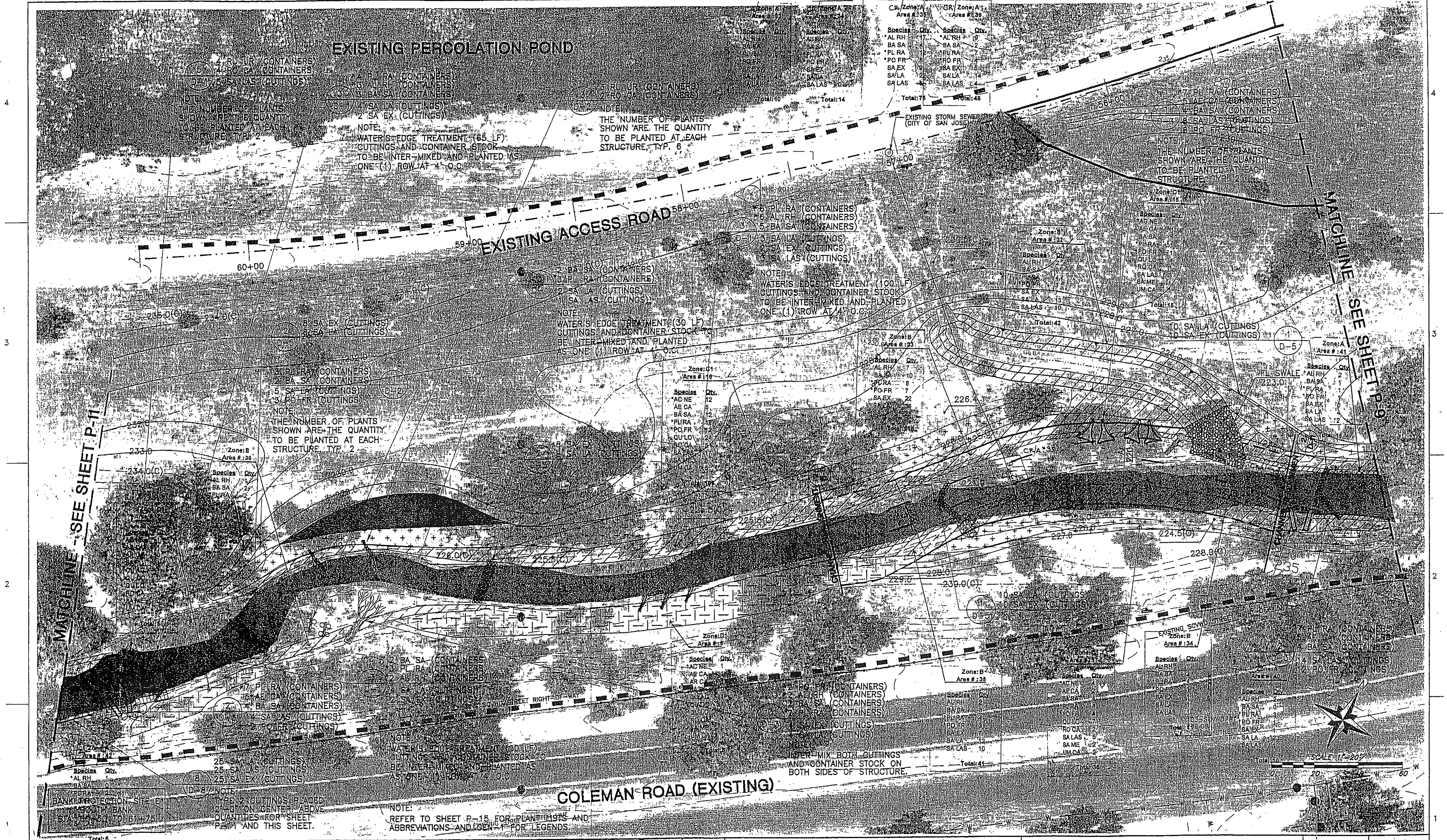
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-9
29 OF 52



EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
COLEMAN ROAD (EXISTING)
MATCHLINE - SEE SHEET P-11
MATCHLINE - SEE SHEET P-9
EXISTING STORM SEWER (CITY OF SAN JOSE)
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 6
NOTE: WATER'S EDGE TREATMENT (65 LF) CUTTINGS AND CONTAINER STOCK TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
NOTE: WATER'S EDGE TREATMENT (100 LF) CUTTINGS AND CONTAINER STOCK TO BE INTER-MIXED AND PLANTED ONE (1) ROW AT 4' O.C.
NOTE: WATER'S EDGE TREATMENT (30 LF) CUTTINGS AND CONTAINER STOCK TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP. 2
INTER-MIX BOTH CUTTINGS AND CONTAINER STOCK ON BOTH SIDES OF STRUCTURE.
BANK PROTECTION SITE E SOUTH BANK STA 60+50 TO 61+75
NOTE: TYPE 2 CUTTINGS PLACED 2'-0" ON CENTER. ABOVE QUANTITIES FOR SHEET P-11 AND THIS SHEET.
NOTE: REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-1 FOR LEGENDS.
58+00
59+00
60+00
57+00
FL SWALE
SCALE: 1" = 20'
0 20 40 60

REV	DESCRIPTION	DATE	APPR

Legend

For Listing of Plant Abbreviations See P-15

* Plants to be Installed Spring 2002

CR/A Channel Realignment Areas Zone A

Jones & Stokes
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west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
5.31.02
4.15.01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

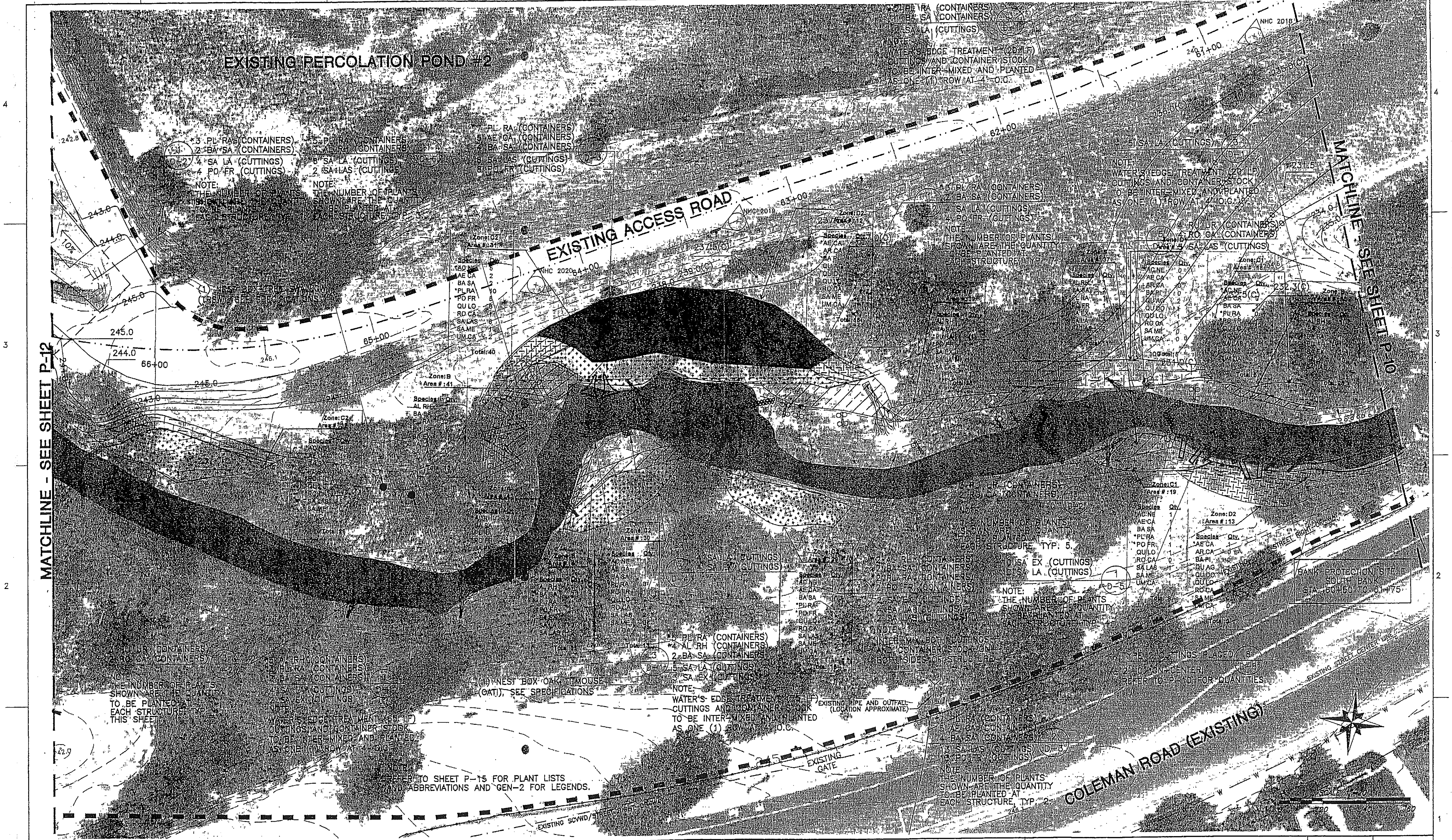
PLANTING PLAN (As-Built)

2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-10
30 OF 52


EXISTING PERCOLATION POND #2
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET P-12
MATCHLINE - SEE SHEET P-10
COLEMAN ROAD (EXISTING)
EXISTING GATE
EXISTING PIPE AND OUTFALL (LOCATION APPROXIMATE)
BANK PROTECTION SITE SOUTH BANK STA. 60+50 TO 61+75
(1) NEST BOX OAK TITMOUSE (OATI), SEE SPECIFICATIONS
NOTE: REFER TO SHEET P-15 FOR PLANT LISTS AND ABBREVIATIONS AND GEN-2 FOR LEGENDS.
NOTE: THE NUMBER OF PLANTS SHOWN ARE THE QUANTITY TO BE PLANTED AT EACH STRUCTURE, TYP.
NOTE: WATER'S EDGE TREATMENT CUTTINGS AND CONTAINER STOCK TO BE INTER-MIXED AND PLANTED AS ONE (1) ROW AT 4' O.C.
3 PL RA (CONTAINERS)
2 BA SA (CONTAINERS)
4 SA LA (CUTTINGS)
4 PO FR (CUTTINGS)
7 PL RA (CONTAINERS)
5 AE CA (CONTAINERS)
8 BA SA (CONTAINERS)
5 SA LA (CUTTINGS)
2 SA LAS (CUTTINGS)
8 PO FR (CUTTINGS)
4 AL RH (CONTAINERS)
4 RU UR (CONTAINERS)
2 RO CA (CONTAINERS)
5 SA LAS (CUTTINGS)
SA EX (CUTTINGS)
Zone: D2
Zone: B
Zone: C1
Zone: C2
Species Qty.
62+00
63+00
64+00
65+00
66+00
67+00
NHC 2018
NHC 2019
NHC 2020
245.0
244.0
243.0
242.8
1
2
3
4
A
B
C
D
E
F
G
H

REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

JOHN A. ZANZI No. 2433
5.31.02
4.13.01

DATE 04/16/01
DESIGN AR/JB
DRAWN BH/CJ/BK
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
Albert M. G
4/16/01
DATE

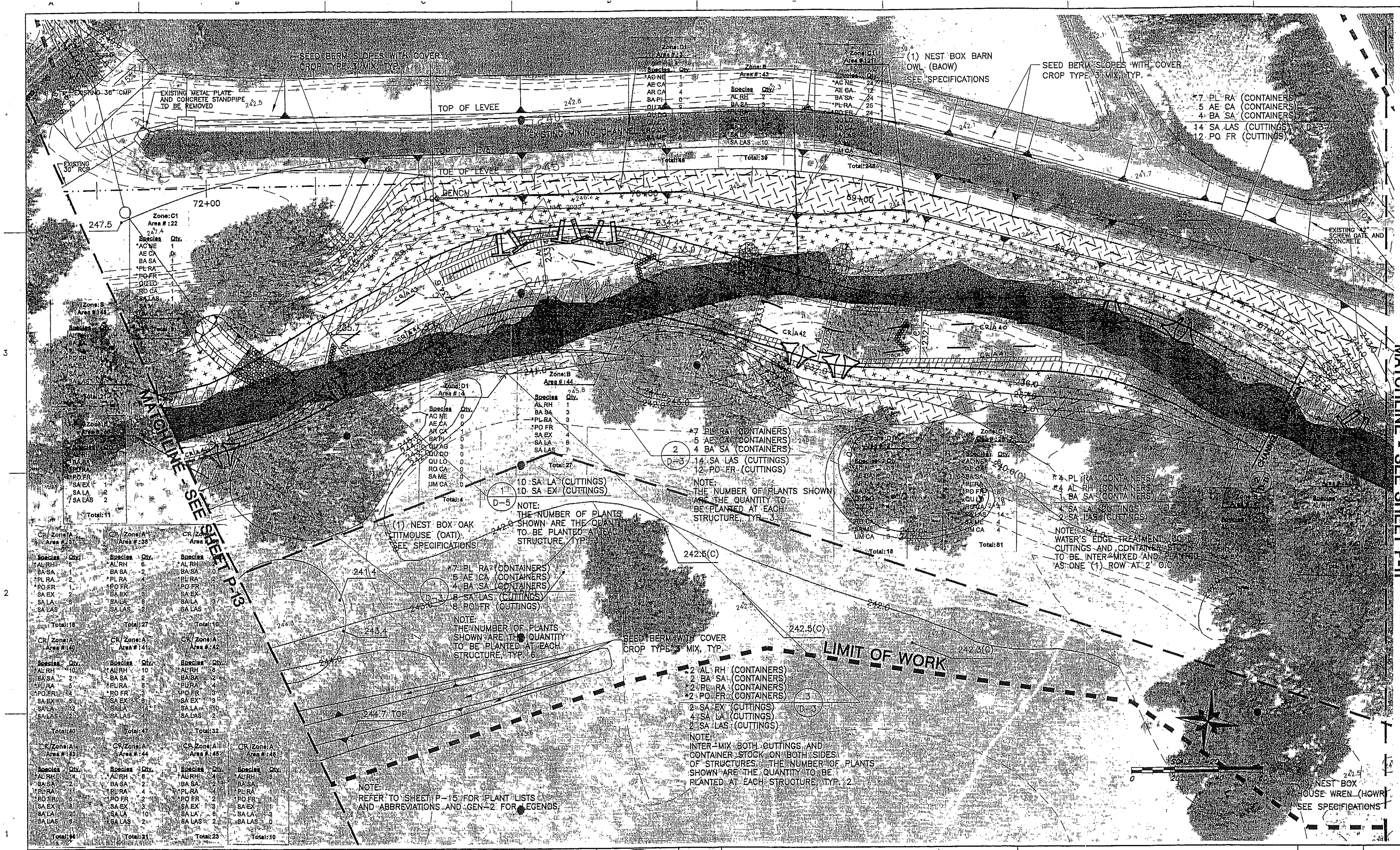
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-11
31 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 *CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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3850 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2833
5-31-02
4-13-01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

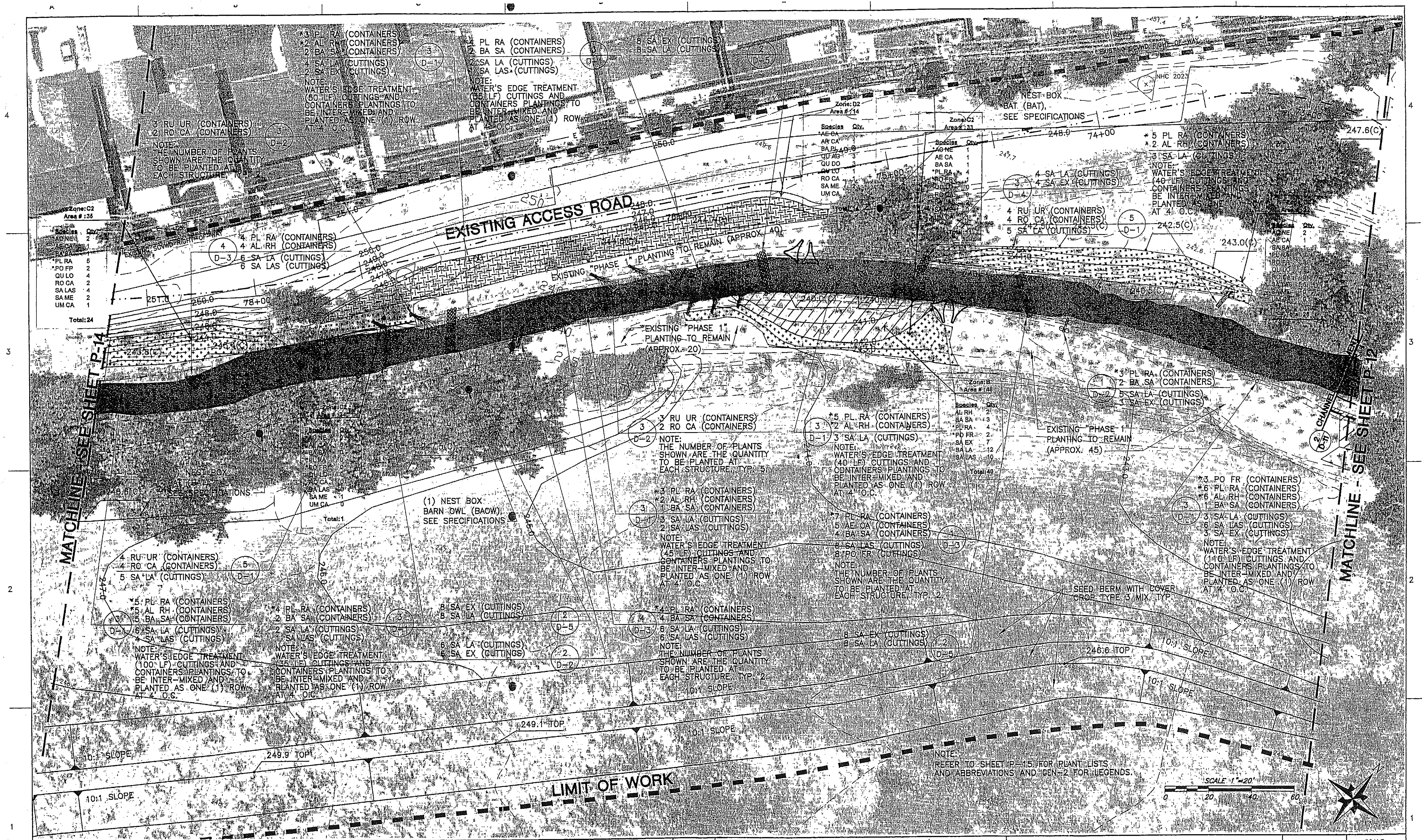
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-12
32 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 * CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
5·31·02
4·13·01
STATE OF CALIFORNIA

DATE	04/16/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

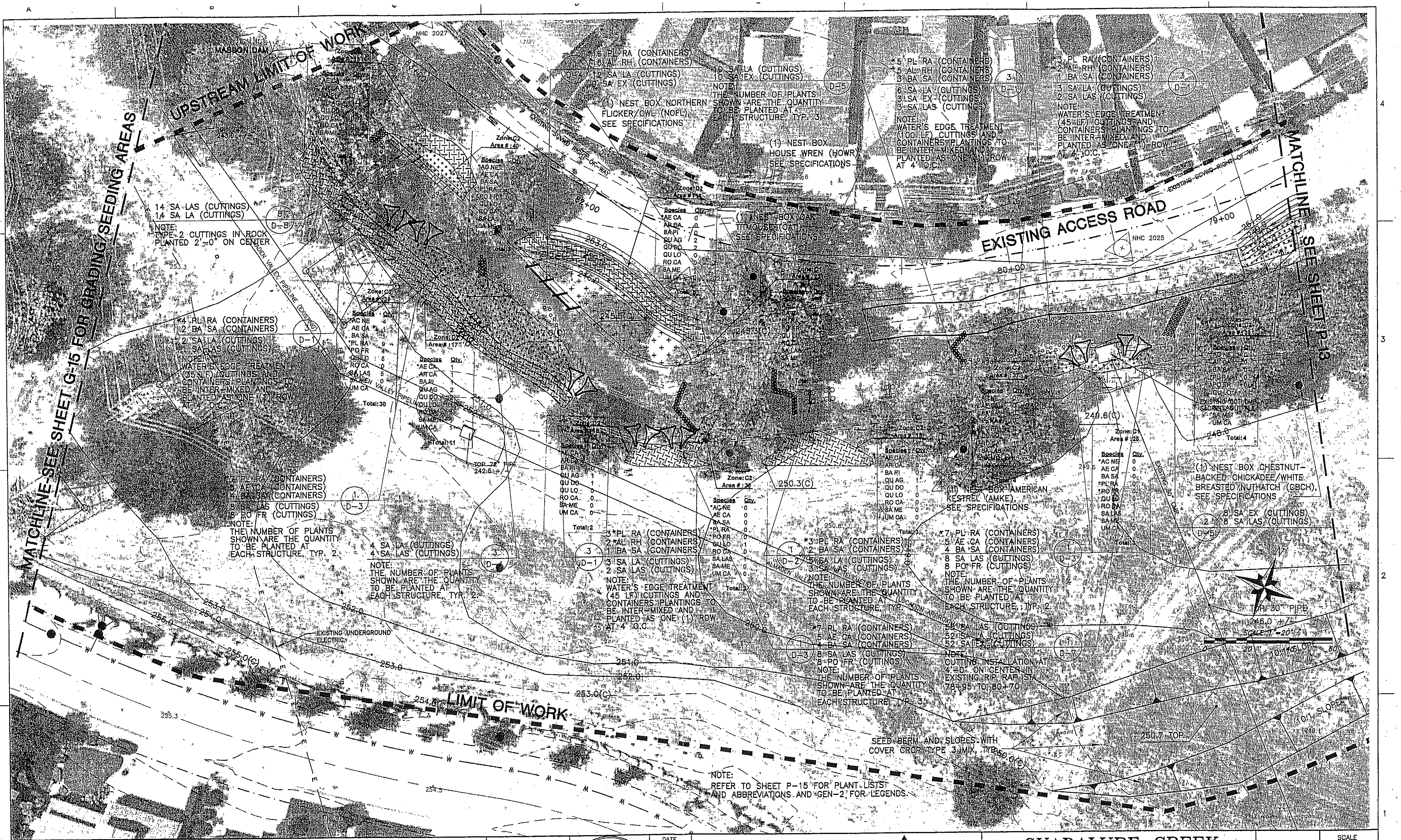
GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-13
33 OF 52



REV	DESCRIPTION	DATE	APPR
	Legend For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A : Channel Realignment Areas Zone A		

Jones & Stokes
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2434
5-31-02
4-12-01
STATE OF CALIFORNIA

DATE	04/18/01
DESIGN	AR/JB
DRAWN	BH/CJ/BK
CHECKED	EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET
P-14
34 OF 52

PLANTING PLAN ZONES

PLAN VIEW SYMBOL	PLANTING ZONE	DETAIL REFERENCE	SPECIES NAME BOTANICAL		SPECIES NAME COMMON	PLANTING PROGRAM AVERAGE ZONE PLANT SPACING	CONTAINER PLANTS SIZE	CONTAINER PLANTS QUANTITY	CUTTINGS/LARGE SEED TYPE	CUTTINGS/LARGE SEED QUANTITY
▨	A (WATERS EDGE)	1/D-8 7/D-8	ALNUS RHOMBIFOLIA	AL RH	WHITE ALDER	2 or 4	DEEPOTS	473		
			BACCHARIS SALICIFOLIA	BA SA	MULE FAT	2 or 4	TREEPOTS	118		
			PLATANUS RACEMOSA	PL RA	WESTERN SYCAMORE	2 or 4	TREEPOTS	473		
			POPULUS FREMONTII	PO FR	FREMONT COTTONWOOD	2 or 4			TYPE 1	237
			SALIX EXIGUA	SA EX	SANDBAR WILLOW	2 or 4			TYPE 1	237
			SALIX LAEVIGATA	SA LA	RED WILLOW	2 or 4			TYPE 1	592
			SALIX LASIOLEPIS	SA LAS	ARROYO WILLOW	2 or 4			TYPE 1	237
▨	B (LOWER SLOPE-- EXISTING)	3/D-8 4/D-8 6/D-8 1/D-9	ALNUS RHOMBIFOLIA	AL RH	WHITE ALDER	6	DEEPOTS	83		
			BACCHARIS SALICIFOLIA	BA SA	MULE FAT	6	TREEPOTS	167		
			PLATANUS RACEMOSA	PL RA	WESTERN SYCAMORE	6	TREEPOTS	167		
			POPULUS FREMONTII	PO FR	FREMONT COTTONWOOD	6	TREEPOTS	83		
			SALIX EXIGUA	SA EX	SANDBAR WILLOW	6			TYPE 2	250
			SALIX LAEVIGATA	SA LA	RED WILLOW	6			TYPE 2	500
			SALIX LASIOLEPIS	SA LAS	ARROYO WILLOW	6			TYPE 2	417
+	C1 (UPPER SLOPE OR LOWER BENCH)	2/D-8 3/D-8 5/D-8 6/D-8 1/D-9 2/D-9	ACER NEGUNDO	AC NE	BOX ELDER	8	DEEPOTS	116		
			AESCULUS CALIFORNICA	AE CA	CALIFORNIA BUCKEYE	8	TREEPOTS	58	LARGE SEED	58
			BACCHARIS SALICIFOLIA	BA SA	MULE FAT	8	TREEPOTS	116		
			PLATANUS RACEMOSA	PL RA	WESTERN SYCAMORE	8	TREEPOTS	116		
			POPULUS FREMONTII	PO FR	FREMONT COTTONWOOD	8	TREEPOTS	116		
			QUERCUS LOBATA	QU LO	VALLEY OAK	8	SUPERCELLS	233		
			ROSA CALIFORNICA	RO CA	CALIFORNIA ROSE	8	SUPERCELLS	58		
			SALIX LASIOLEPIS	SA LAS	ARROYO WILLOW	8			TYPE 2	175
			SAMBUCUS MEXICANA	SA ME	ELDERBERRY	8	DEEPOTS	58		
			UMBELLULARIA CALIFORNICA	UM CA	CALIFORNIA BAY	8	TREEPOTS	58		
⁘	C2 (UPPER SLOPE OR LOWER BENCH-- LAWHC)	2/D-8 3/D-8 5/D-8 6/D-8 1/D-9 2/D-9	ACER NEGUNDO	AC NE	BOX ELDER	8	DEEPOTS	142		
			AESCULUS CALIFORNICA	AE CA	CALIFORNIA BUCKEYE	8	TREEPOTS	71	LARGE SEED	71
			BACCHARIS SALICIFOLIA	BA SA	MULE FAT	8	TREEPOTS	71		
			PLATANUS RACEMOSA	PL RA	WESTERN SYCAMORE	8	TREEPOTS	356		
			POPULUS FREMONTII	PO FR	FREMONT COTTONWOOD	8	TREEPOTS	142		
			QUERCUS LOBATA	QU LO	VALLEY OAK	8	SUPERCELLS	213		
			ROSA CALIFORNICA	RO CA	CALIFORNIA ROSE	8	SUPERCELLS	43		
			SALIX LASIOLEPIS	SA LA	ARROYO WILLOW	8			TYPE 2	213
			SAMBUCUS MEXICANA	SA ME	ELDERBERRY	8	DEEPOTS	28		
			UMBELLULARIA CALIFORNICA	UM CA	CALIFORNIA BAY	8	TREEPOTS	71		
┼	D1 (UPPER BENCH)	5/D-8 2/D-9 6/D-8	ACER NEGUNDO	AC NE	BOX ELDER	12	DEEPOTS	3		
			AESCULUS CALIFORNICA	AE CA	CALIFORNIA BUCKEYE	12	TREEPOTS	6	LARGE SEED	6
			ARTEMISIA CALIFORNICA	AR CA	CALIFORNIA SAGEBRUSH	12	DEEPOTS	5		
			BACCHARIS PILULARIS	BA PI	COYOTE BRUSH	12	DEEPOTS	2		
			QUERCUS AGRIFOLIA	QU AG	COAST LIVE OAK	12	TREEPOTS	21		
			QUERCUS DOUGLASII	QU DO	BLUE OAK	12	SUPERCELLS	16		
			QUERCUS LOBATA	QU LO	VALLEY OAK	12	SUPERCELLS	21		
			ROSA CALIFORNICA	RO CA	CALIFORNIA ROSE	12	SUPERCELLS	5		
			SAMBUCUS MEXICANA	SA ME	ELDERBERRY	12	DEEPOTS	11		
			UMBELLULARIA CALIFORNICA	UM CA	CALIFORNIA BAY	12	TREEPOTS	11		
╬	D2 (UPPER BENCH-- LAWHC)	5/D-8 2/D-9 6/D-8	AESCULUS CALIFORNICA	AE CA	CALIFORNIA BUCKEYE	12	TREEPOTS	16	LARGE SEED	16
			ARTEMISIA CALIFORNICA	AR CA	CALIFORNIA SAGEBRUSH	12	DEEPOTS	10		
			BACCHARIS PILULARIS	BA PI	COYOTE BRUSH	12	DEEPOTS	10		
			QUERCUS AGRIFOLIA	QU AG	COAST LIVE OAK	12	TREEPOTS	51		
			QUERCUS DOUGLASII	QU DO	BLUE OAK	12	SUPERCELLS	51		
			QUERCUS LOBATA	QU LO	VALLEY OAK	12	SUPERCELLS	10		
			ROSA CALIFORNICA	RO CA	CALIFORNIA ROSE	12	SUPERCELLS	10		
			SAMBUCUS MEXICANA	SA ME	ELDERBERRY	12	DEEPOTS	21		
			UMBELLULARIA CALIFORNICA	UM CA	CALIFORNIA BAY	12	TREEPOTS	10		

NOTES:

1. ZONE A SPACING IN CHANNEL REALIGNMENT AREAS=2' O.C. ZONE A SPACING IN NON-CHANNEL REALIGNMENT AREAS=4' O.C.
2. SEE 3/D-9 FOR PLANT LAYOUT AND APPROXIMATE SPACING BETWEEN PLANT TYPES (I.E. TREES, SMALL TREES, AND SHRUBS) WITHIN EACH ZONE.
3. SEE 2/D-7 FOR PLANTING ZONE CROSS-SECTION.
4. TREES=WESTERN SYCAMORE, COAST LIVE OAK, BLUE OAK, VALLEY OAK, AND FREMONT COTTONWOOD.
   SMALL TREES=BOX ELDER, CALIFORNIA BUCKEYE, CALIFORNIA BAY, ARROYO WILLOW, RED WILLOW, ELDERBERRY, AND WHITE ALDER.
   SHRUBS=MULEFAT, SANDBAR WILLOW, CALIFORNIA SAGEBRUSH, CALIFORNIA ROSE, CALIFORNIA BLACKBERRY, AND COYOTE BRUSH.
5. PLANT LAYOUT WILL BE IN A RANDOM CONFIGURATION ACCORDING TO THE SPECIFICATIONS AND 3/D-9.

PLANTING PLAN INSTREAM STRUCTURES

STRUCTURE TYPE	STRUCTURE DETAIL REFERENCE	PLANT ABBREVIATION	BOTANICAL NAME	COMMON NAME	PLANT MATERIAL TYPE	QUANTITY
WATER'S EDGE TREATMENT						
	3/D-1	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	132
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	88
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	166
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CONTAINER	25
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	180
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	73
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	47
LOG STREAM BARB						
	5/D-1	RU UR	RUBUS URSINUS	BLACKBERRY	CONTAINER	127
		RO CA	ROSA CALIFORNICA	CALIFORNIA ROSE	CONTAINER	122
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	90
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	75
BAR INSTREAM WOODY MATERIAL (IWM)						
	1/D-2	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	78
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	95
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	225
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CUTTING	137
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	356
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	54
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	71

STRUCTURE TYPE	STRUCTURE DETAIL REFERENCE	PLANT ABBREVIATION	BOTANICAL NAME	COMMON NAME	PLANT MATERIAL TYPE	QUANTITY
OFF-BANK LOG COVER						
	2/D-2	PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CUTTING	6
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	18
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	12
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	24
OFF-BANK BRANCH COVER						
	3/D-2	RU UR	RUBUS URSINUS	BLACKBERRY	CONTAINER	180
		RO CA	ROSA CALIFORNICA	CALIFORNIA ROSE	CONTAINER	112
ROOTWAD BANK STRUCTURE – TYPE 1						
	1/D-3	AE CA	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	CONTAINER	226
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	182
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	336
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CONTAINER	121
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CUTTING	312
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	8
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	8
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	320
ROOTWAD BANK STRUCTURE – TYPE 2						
	2/D-3	AE CA	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	CONTAINER	70
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	52
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	91
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CUTTING	164
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	26
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	148
OVERBANK WOODY MATERIAL (OWM)						
	3/D-3	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	16
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	20
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	18
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CONTAINER	18
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	38
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	18
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	16
WING DEFLECTOR						
	4/D-3	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	12
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	12
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	18
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	18
LOG TOE BANK STRUCTURE						
	1/D-4	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	40
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	100
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	84
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	83
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	64
ROCK STREAM BARB						
	3/D-4	SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	48
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	40
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	8
V-WEIR						
	1/D-5	SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	148
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	147
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	5
CROSS WEIR						
	2/D-5	SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	102
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	94
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	8
DEBRIS JAM						
	1/D-6	AL RH	ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	9
		BA SA	BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	4
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	27
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	30
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	10
BANK PROTECTION						
	3/D-6	AE CA	AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE	CONTAINER	20
		PL RA	PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	73
		QU LO	QUERCUS LOBATA	VALLEY OAK	CONTAINER	95
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CONTAINER	55
		PO FR	POPULUS FREMONTII	FREMONT COTTONWOOD	CUTTING	65
		SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	40
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	120
CUTTING INSTALLATION IN EXISTING RIP RAP STA PT. 78+95 TO 80+70						
	1/D-7	SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	55
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	52
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	52
TYPE 2 CUTTING IN ROCK						
	8/D-8	SA LA	SALIX LAEVIGATA	RED WILLOW	CUTTING	39
		SA LAS	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	39
		SA EX	SALIX EXIGUA	SANDBAR WILLOW	CUTTING	25

NOTES:

1. PLANT SPACING AND QUANTITIES WILL BE AS INDICATED ON THE DRAWINGS.
2. REFER TO PLANT LIST, THIS SHEET, FOR ADDITIONAL REQUIRED PLANTINGS.

REV	DESCRIPTION	DATE	APPR
1	**Legend** For Listing of Plant Abbreviations See P-15 * Plants to be Installed Spring 2002 CR/A (Channel Realignment Areas Zone A		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

LICENSED LANDSCAPE ARCHITECT
JOHN A. ZANZI No. 2933
Signature 5-31-02
Renewal Date 4-13-01
Date
STATE OF CALIFORNIA

DATE 04/16/01
DESIGN AR/JB
DRAWN BH/CJ/BK
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
4/16/01
DATE

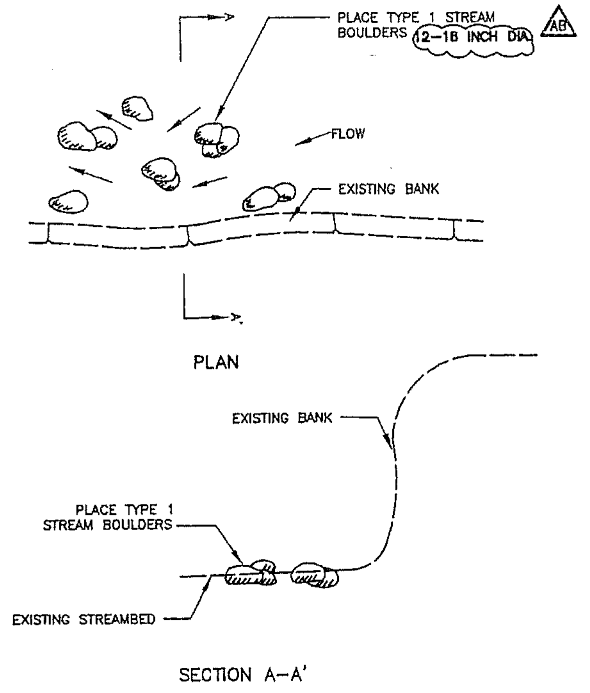
GUADALUPE CREEK
RESTORATION PROJECT

PLANTING PLAN (As-Built)
2/02

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN

SHEET
P-15
35 OF 52

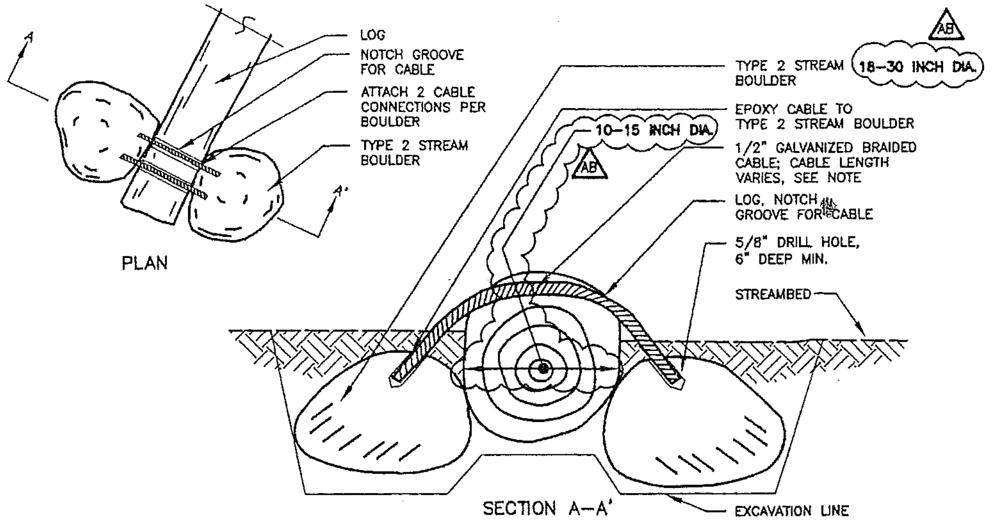

PLACE TYPE 1 STREAM BOULDERS (12–18 INCH DIA) AB
FLOW
EXISTING BANK
PLAN
EXISTING BANK
PLACE TYPE 1 STREAM BOULDERS
EXISTING STREAMBED
SECTION A–A'

NOTE:

1. APPROXIMATE LOCATIONS AND QUANTITIES ARE SHOWN ON THE GRADING PLANS. ACTUAL LOCATIONS AND PLACEMENT WILL BE DIRECTED BY ENGINEER.

1/D-1 STREAM BOULDER PLACEMENT

Not To Scale

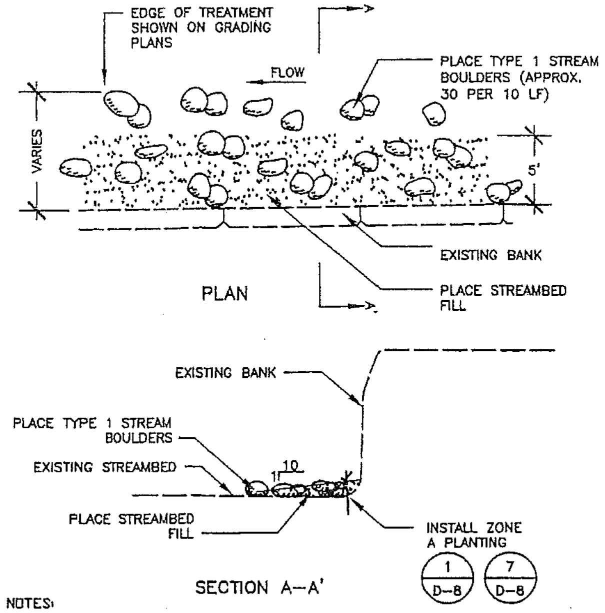

LOG
NOTCH GROOVE FOR CABLE
ATTACH 2 CABLE CONNECTIONS PER BOULDER
TYPE 2 STREAM BOULDER
PLAN
TYPE 2 STREAM BOULDER (18–30 INCH DIA) AB
EPOXY CABLE TO TYPE 2 STREAM BOULDER
10–15 INCH DIA AB
1/2" GALVANIZED BRAIDED CABLE; CABLE LENGTH VARIES, SEE NOTE
LOG, NOTCH GROOVE FOR CABLE
5/8" DRILL HOLE, 6" DEEP MIN.
STREAMBED
SECTION A–A'
EXCAVATION LINE

NOTE:

1. CABLE LENGTH MUST BE MEASURED TO ENSURE NO SLACK OVER LOG TO BE ANCHORED AFTER PLACEMENT OF STREAM BOULDER ANCHOR. THE ANCHORS WILL BE PLACED IN EXCAVATED TRENCHES TO ENSURE THEY HANG ON THE LOG. EXCAVATED TRENCHES WILL BE BACKFILLED.

2/D-1 STREAM BOULDER ANCHOR

Not To Scale



NOTES:

1. STREAM BOULDERS WILL BE PLACED FIRST TO FORM IRREGULAR EDGE. STREAMBED FILL WILL BE PLACED OVER EXISTING STREAMBED AND PLACED STREAM BOULDERS.

2. INSTALL PLANTS AT TOE OF EXISTING BANK.

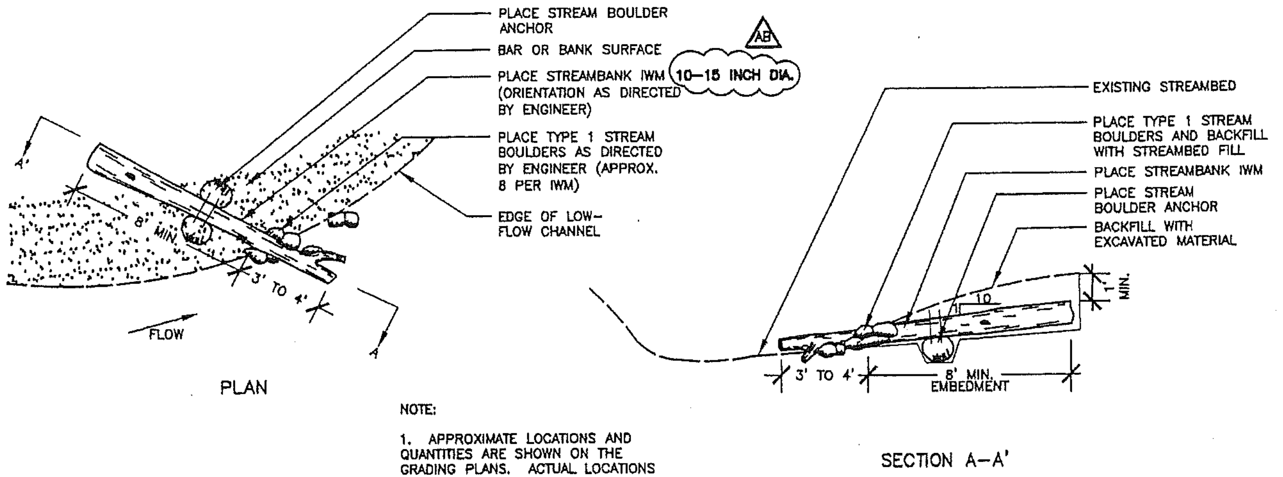
3. PROTECT EXISTING WOODY VEGETATION, AS MARKED BY THE ENGINEER TO REMAIN. ALL OTHER VEGETATION WILL BE CLEARED TO THE EXISTING GROUND ELEVATION PRIOR TO THE PLACEMENT OF FILL.

4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

5. UNLESS OTHERWISE SHOWN, STREAMBED FILL EXTENDS A MAXIMUM OF 5' FROM EXISTING TOE OF BANK.

3/D-1 WATER'S EDGE TREATMENT

Not To Scale

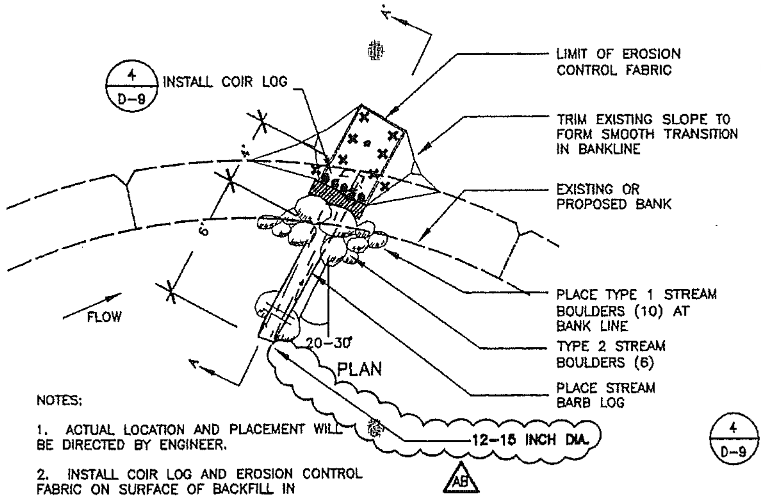

PLACE STREAM BOULDER ANCHOR
BAR OR BANK SURFACE
PLACE STREAMBANK IWM (10–15 INCH DIA) (ORIENTATION AS DIRECTED BY ENGINEER) AB
PLACE TYPE 1 STREAM BOULDERS AS DIRECTED BY ENGINEER (APPROX. 8 PER IWM)
EDGE OF LOW-FLOW CHANNEL
8' MIN.
3' TO 4'
FLOW
PLAN
EXISTING STREAMBED
PLACE TYPE 1 STREAM BOULDERS AND BACKFILL WITH STREAMBED FILL
PLACE STREAMBANK IWM
PLACE STREAM BOULDER ANCHOR
BACKFILL WITH EXCAVATED MATERIAL
10
1
1' MIN.
3' TO 4'
8' MIN. EMBEDMENT
SECTION A–A'

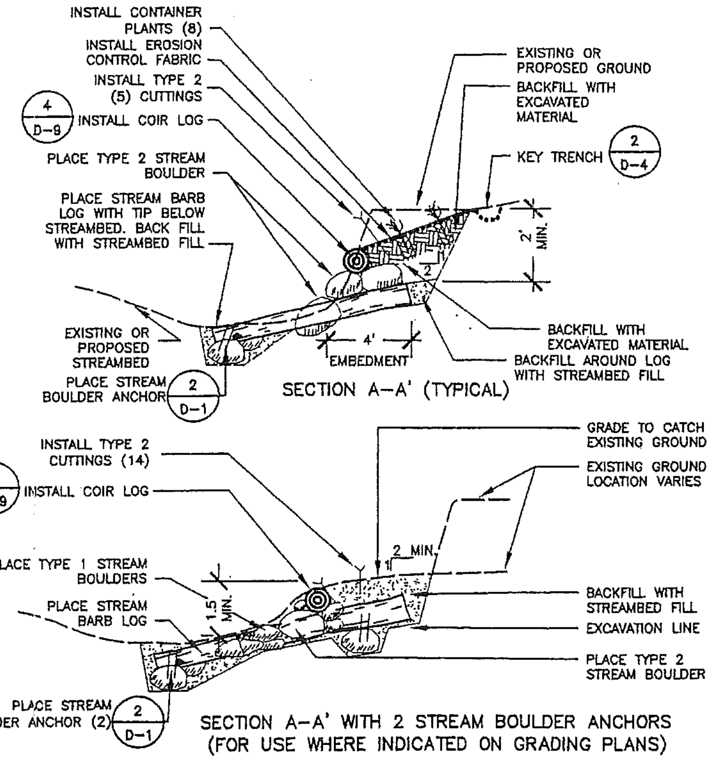
NOTE:

1. APPROXIMATE LOCATIONS AND QUANTITIES ARE SHOWN ON THE GRADING PLANS. ACTUAL LOCATIONS AND PLACEMENT WILL BE DIRECTED BY ENGINEER.

4/D-1 STREAMBANK INSTREAM WOODY MATERIAL (IWM)

Not To Scale


4/D-9 INSTALL COIR LOG
LIMIT OF EROSION CONTROL FABRIC
TRIM EXISTING SLOPE TO FORM SMOOTH TRANSITION IN BANKLINE
EXISTING OR PROPOSED BANK
4'
6'
FLOW
PLACE TYPE 1 STREAM BOULDERS (10) AT BANK LINE
TYPE 2 STREAM BOULDERS (6)
PLACE STREAM BARB LOG
20–30°
PLAN
12–15 INCH DIA AB


INSTALL CONTAINER PLANTS (8)
INSTALL EROSION CONTROL FABRIC
INSTALL TYPE 2 (5) CUTTINGS
4/D-9 INSTALL COIR LOG
PLACE TYPE 2 STREAM BOULDER
PLACE STREAM BARB LOG WITH TIP BELOW STREAMBED. BACK FILL WITH STREAMBED FILL
EXISTING OR PROPOSED STREAMBED
PLACE STREAM BOULDER ANCHOR 2/D-1
EXISTING OR PROPOSED GROUND
BACKFILL WITH EXCAVATED MATERIAL
KEY TRENCH 2/D-4
2' MIN.
4'
EMBEDMENT
BACKFILL WITH EXCAVATED MATERIAL
BACKFILL AROUND LOG WITH STREAMBED FILL
SECTION A–A' (TYPICAL)
INSTALL TYPE 2 CUTTINGS (14)
4/D-9 INSTALL COIR LOG
GRADE TO CATCH EXISTING GROUND
EXISTING GROUND LOCATION VARIES
2 MIN.
1
1.5' MIN.
PLACE TYPE 1 STREAM BOULDERS
PLACE STREAM BARB LOG
BACKFILL WITH STREAMBED FILL
EXCAVATION LINE
PLACE TYPE 2 STREAM BOULDER
PLACE STREAM BOULDER ANCHOR (2) 2/D-1
SECTION A–A' WITH 2 STREAM BOULDER ANCHORS (FOR USE WHERE INDICATED ON GRADING PLANS)

NOTES:

1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY ENGINEER.

2. INSTALL COIR LOG AND EROSION CONTROL FABRIC ON SURFACE OF BACKFILL IN EXCAVATED TRENCH.

3. ✖ = CONTAINER PLANTS
   ● = CUTTINGS

4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

5. WHEN CONSTRUCTING IN A CHANNEL REALIGNMENT SECTION, BACKFILL CONFORM TO TYPICAL SECTION GEOMETRY

2/D-11

5/D-1 LOG STREAM BARB

Not To Scale

AS BUILT

PROJECT SUPERVISOR

BY ________

DATE ________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	A.R./E.W.
DRAWN	Staff
CHECKED	E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***

*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

INSTREAM STRUCTURES DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
D–1
36 OF 52

Plot Date: Thu 28 Feb 2002 – 7:55am
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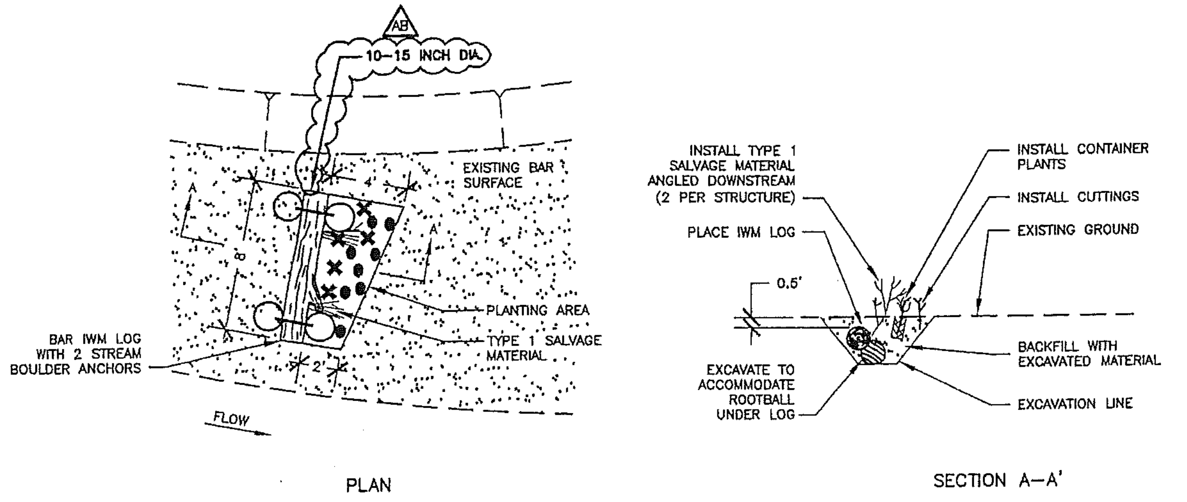


NOTES:

1. ✖ = CONTAINER PLANTS

● = CUTTING

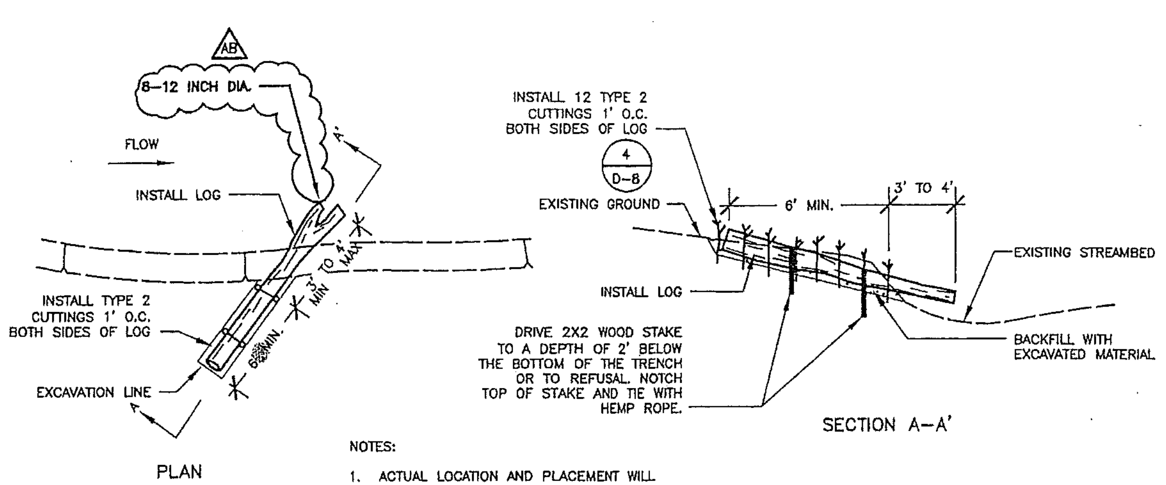
2. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

3. TYPE 1 SALVAGE MATERIAL TO BE SALVAGED BACCHARIS FROM ON-SITE WITH A MINIMUM OF 10 STEMS EXPOSED AT LEAST 3' ABOVE SURFACE.

NOTE:

BOULDER ANCHOR NOT SHOWN FOR CLARITY.

1/D-2 BAR INSTREAM WOODY MATERIAL (IWM)
Scale 1"=5'


AB
8–12 INCH DIA.
FLOW
INSTALL LOG
INSTALL TYPE 2 CUTTINGS 1' O.C. BOTH SIDES OF LOG
EXCAVATION LINE
6' MIN.
3' MIN TO 4' MAX
A
A'
PLAN
INSTALL 12 TYPE 2 CUTTINGS 1' O.C. BOTH SIDES OF LOG
4/D-8
EXISTING GROUND
6' MIN.
3' TO 4'
EXISTING STREAMBED
INSTALL LOG
DRIVE 2X2 WOOD STAKE TO A DEPTH OF 2' BELOW THE BOTTOM OF THE TRENCH OR TO REFUSAL. NOTCH TOP OF STAKE AND TIE WITH HEMP ROPE.
BACKFILL WITH EXCAVATED MATERIAL
SECTION A–A'

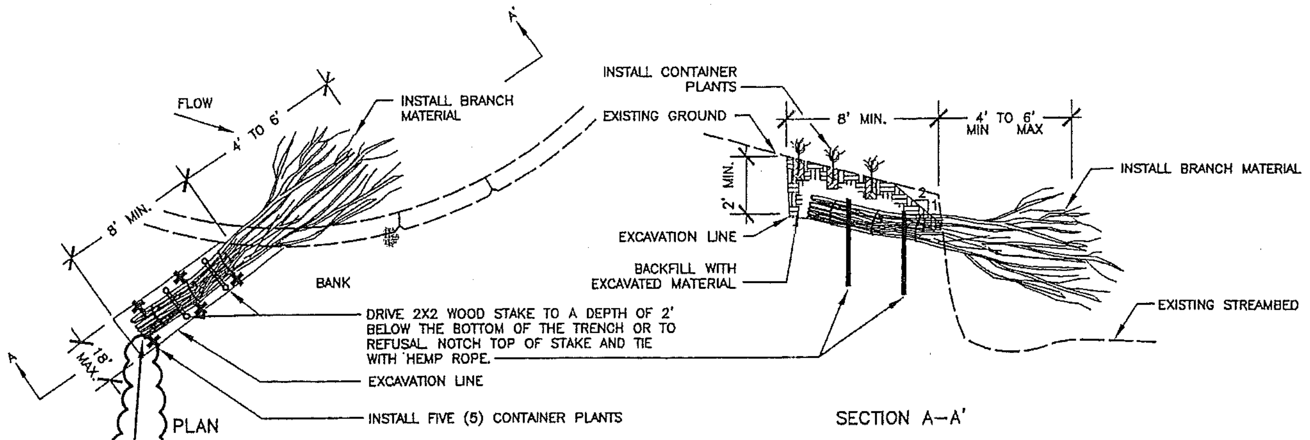
NOTES:

1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.

2. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

3. WHERE OFF-BANK LOG COVER IS INSTALLED IN ROCK TOE, PLACE BOTTOM OF LOGS APPROXIMATELY AT TOP OF ROCK AND BUTT COIR LOG INTO LOGS UPSTREAM AND DOWNSTREAM.

2/D-2 OFF-BANK LOG COVER
Not To Scale



NOTES:

1. ✖ =CONTAINER PLANTS

2. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

3/D-2 OFF-BANK BRANCH COVER
Not To Scale

AS BUILT
PROJECT SUPERVISOR
BY ____________
DATE ____________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691–3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN Staff
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK
RESTORATION PROJECT

INSTREAM STRUCTURES DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN
SHEET
D–2
37 OF 52

Plot Date: Thu 28 Feb 2002 – 8:11am
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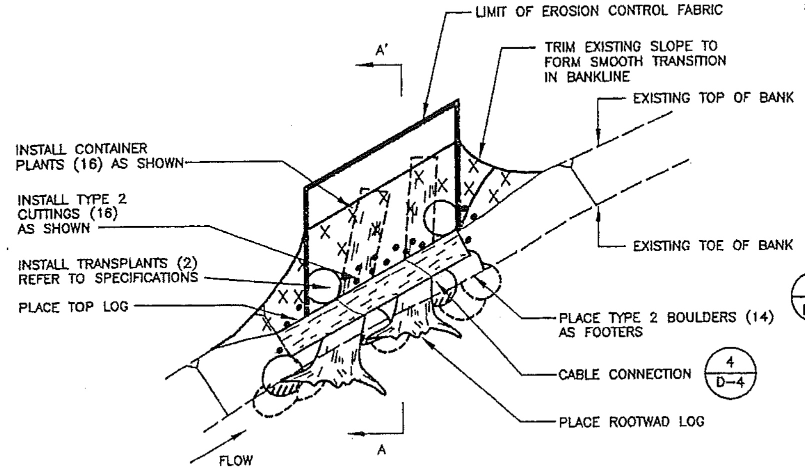
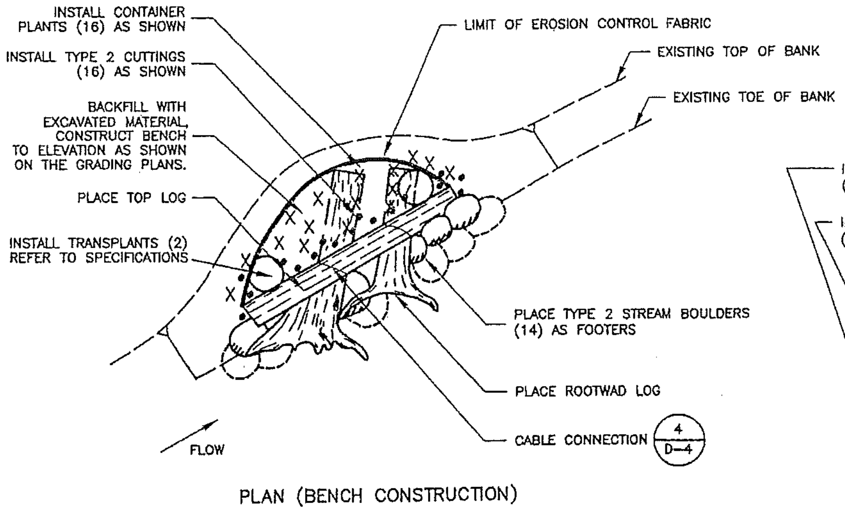
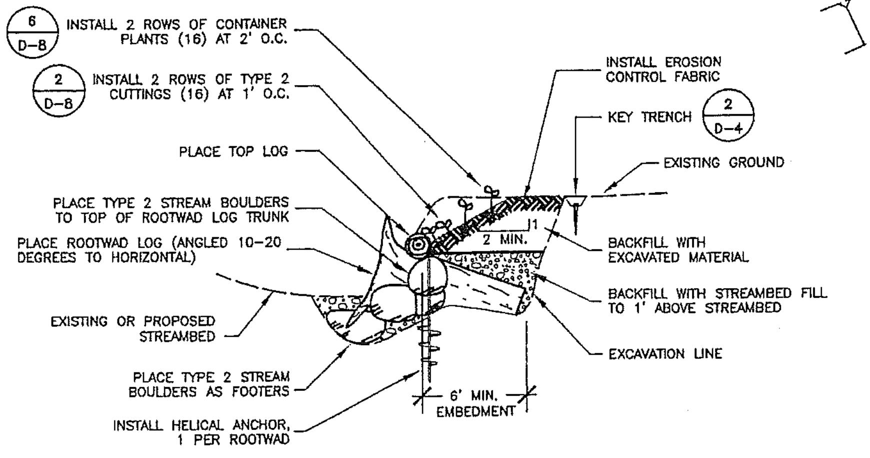

LIMIT OF EROSION CONTROL FABRIC
A'
TRIM EXISTING SLOPE TO FORM SMOOTH TRANSITION IN BANKLINE
EXISTING TOP OF BANK
INSTALL CONTAINER PLANTS (16) AS SHOWN
INSTALL TYPE 2 CUTTINGS (16) AS SHOWN
EXISTING TOE OF BANK
INSTALL TRANSPLANTS (2) REFER TO SPECIFICATIONS
PLACE TOP LOG
PLACE TYPE 2 BOULDERS (14) AS FOOTERS
CABLE CONNECTION 4/D-4
PLACE ROOTWAD LOG
A
FLOW

PLAN


INSTALL CONTAINER PLANTS (16) AS SHOWN
INSTALL TYPE 2 CUTTINGS (16) AS SHOWN
BACKFILL WITH EXCAVATED MATERIAL. CONSTRUCT BENCH TO ELEVATION AS SHOWN ON THE GRADING PLANS.
PLACE TOP LOG
INSTALL TRANSPLANTS (2) REFER TO SPECIFICATIONS
LIMIT OF EROSION CONTROL FABRIC
EXISTING TOP OF BANK
EXISTING TOE OF BANK
PLACE TYPE 2 STREAM BOULDERS (14) AS FOOTERS
PLACE ROOTWAD LOG
CABLE CONNECTION 4/D-4
FLOW

PLAN (BENCH CONSTRUCTION)


6/D-8 INSTALL 2 ROWS OF CONTAINER PLANTS (16) AT 2' O.C.
2/D-8 INSTALL 2 ROWS OF TYPE 2 CUTTINGS (16) AT 1' O.C.
PLACE TOP LOG
PLACE TYPE 2 STREAM BOULDERS TO TOP OF ROOTWAD LOG TRUNK
PLACE ROOTWAD LOG (ANGLED 10-20 DEGREES TO HORIZONTAL)
EXISTING OR PROPOSED STREAMBED
PLACE TYPE 2 STREAM BOULDERS AS FOOTERS
INSTALL HELICAL ANCHOR, 1 PER ROOTWAD
INSTALL EROSION CONTROL FABRIC
KEY TRENCH 2/D-4
EXISTING GROUND
2 MIN.
1
1
BACKFILL WITH EXCAVATED MATERIAL
BACKFILL WITH STREAMBED FILL TO 1' ABOVE STREAMBED
EXCAVATION LINE
6' MIN. EMBEDMENT

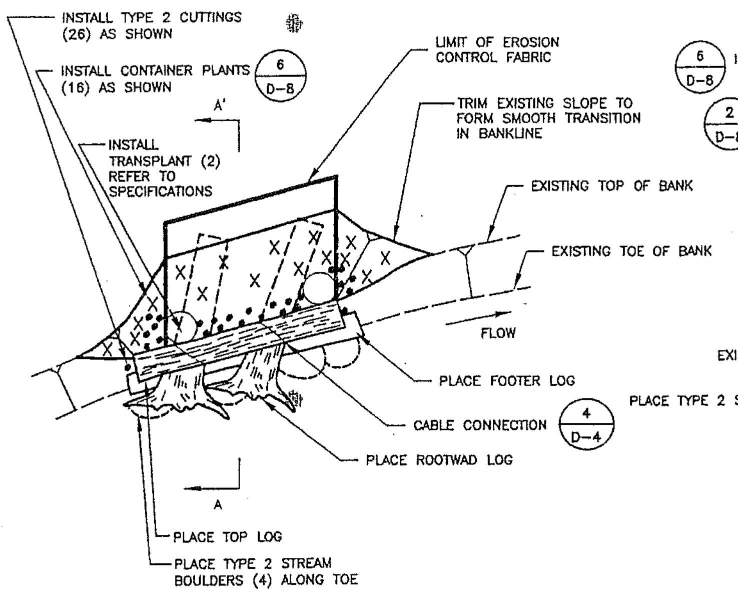
PLAN

NOTES:

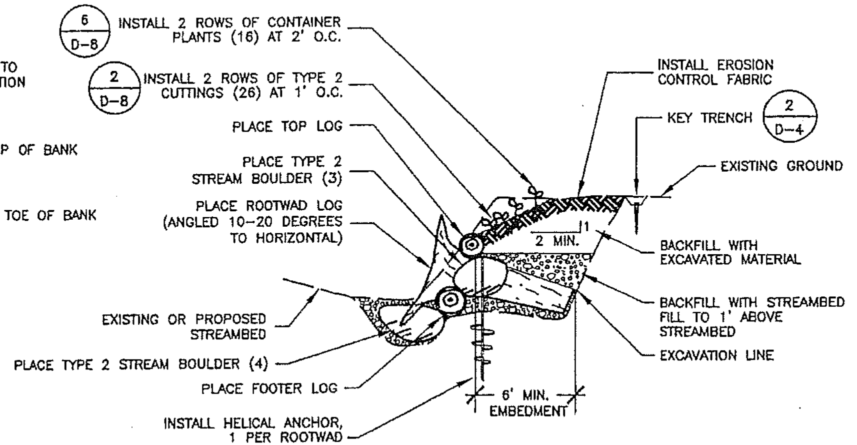
1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.
2. PLACEMENT OF STREAMBED FILL MAY BE REQUIRED TO FILL SCOUR HOLES OF THE EXISTING STREAMBED TO ALLOW PROPER PLACEMENT OF FOOTER LOGS.
3. X = CONTAINER PLANTS
   ● = CUTTINGS
4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.
5. WHEN CONSTRUCTING IN CHANNEL REALIGNMENT SECTION, BACKFILL TO CONFORM TO TYPICAL SECTION GEOMETRY.
6. WHERE INSTALLED IN ROCK TOE, PLACE ROOTWAD BANK STRUCTURE AS SHOWN, BUTT ROCK ON SLOPE INTO ROOTWADS, AND CONTINUE ROCK APRON ON STREAMBED IN FRONT OF ROOTWADS.

1/D-3 ROOTWAD BANK STRUCTURE – TYPE 1

Not To Scale


INSTALL TYPE 2 CUTTINGS (26) AS SHOWN
INSTALL CONTAINER PLANTS (16) AS SHOWN 6/D-8
A'
INSTALL TRANSPLANT (2) REFER TO SPECIFICATIONS
LIMIT OF EROSION CONTROL FABRIC
TRIM EXISTING SLOPE TO FORM SMOOTH TRANSITION IN BANKLINE
EXISTING TOP OF BANK
EXISTING TOE OF BANK
FLOW
PLACE FOOTER LOG
CABLE CONNECTION 4/D-4
PLACE ROOTWAD LOG
A
PLACE TOP LOG
PLACE TYPE 2 STREAM BOULDERS (4) ALONG TOE

PLAN


5/D-8 INSTALL 2 ROWS OF CONTAINER PLANTS (16) AT 2' O.C.
2/D-8 INSTALL 2 ROWS OF TYPE 2 CUTTINGS (26) AT 1' O.C.
PLACE TOP LOG
PLACE TYPE 2 STREAM BOULDER (3)
PLACE ROOTWAD LOG (ANGLED 10-20 DEGREES TO HORIZONTAL)
EXISTING OR PROPOSED STREAMBED
PLACE TYPE 2 STREAM BOULDER (4)
PLACE FOOTER LOG
INSTALL HELICAL ANCHOR, 1 PER ROOTWAD
INSTALL EROSION CONTROL FABRIC
KEY TRENCH 2/D-4
EXISTING GROUND
2 MIN.
1
1
BACKFILL WITH EXCAVATED MATERIAL
BACKFILL WITH STREAMBED FILL TO 1' ABOVE STREAMBED
EXCAVATION LINE
6' MIN. EMBEDMENT

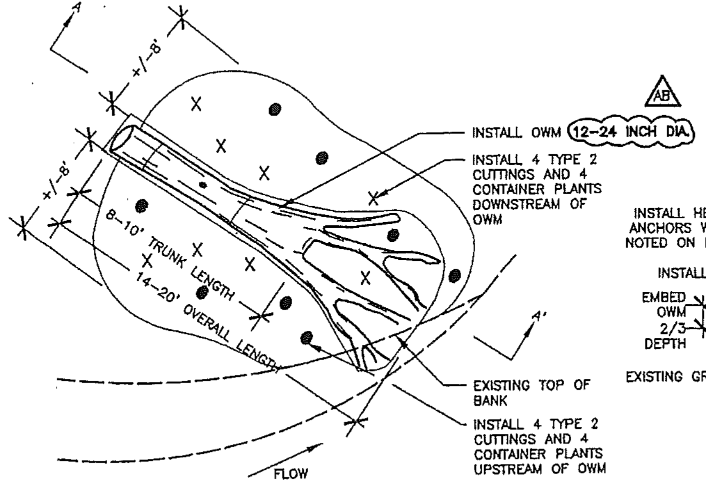
SECTION A–A' TYPICAL

NOTES:

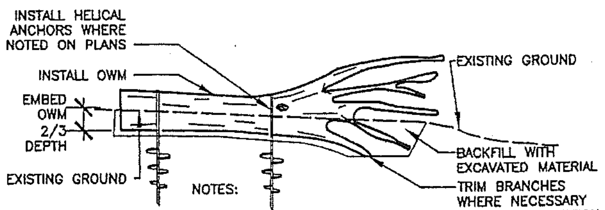
1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.
2. SECTIONS REQUIRING BENCH CONSTRUCTION WILL HAVE THE SAME BACKFILL, EROSION CONTROL FABRIC AND BENCH DIMENSION REQUIREMENTS AS ROOTWAD BANK STRUCTURE – TYPE 1 PLAN BENCH CONSTRUCTION. 1/D-3
3. X = CONTAINER PLANTS
   ● = CUTTINGS
4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.
5. WHEN CONSTRUCTING IN CHANNEL REALIGNMENT SECTION, CONFORM TO TYPICAL SECTION GEOMETRY.

2/D-3 ROOTWAD BANK STRUCTURE – TYPE 2

Not To Scale


A
A'
+/-8'
+/-8'
INSTALL OWM (12-24 INCH DIA.)
AB
INSTALL 4 TYPE 2 CUTTINGS AND 4 CONTAINER PLANTS DOWNSTREAM OF OWM
8-10' TRUNK LENGTH
14-20' OVERALL LENGTH
EXISTING TOP OF BANK
INSTALL 4 TYPE 2 CUTTINGS AND 4 CONTAINER PLANTS UPSTREAM OF OWM
FLOW

PLAN


INSTALL HELICAL ANCHORS WHERE NOTED ON PLANS
INSTALL OWM
EMBED OWM 2/3 DEPTH
EXISTING GROUND
EXISTING GROUND
BACKFILL WITH EXCAVATED MATERIAL
TRIM BRANCHES WHERE NECESSARY TO LIMIT EXCAVATION TO 3' MAXIMUM

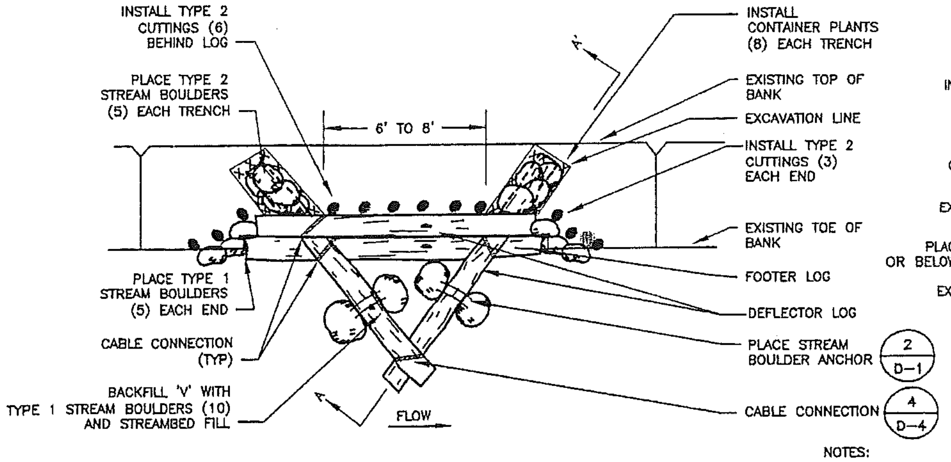
NOTES:

1. X = CONTAINER PLANTS
   ● = CUTTINGS
2. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES

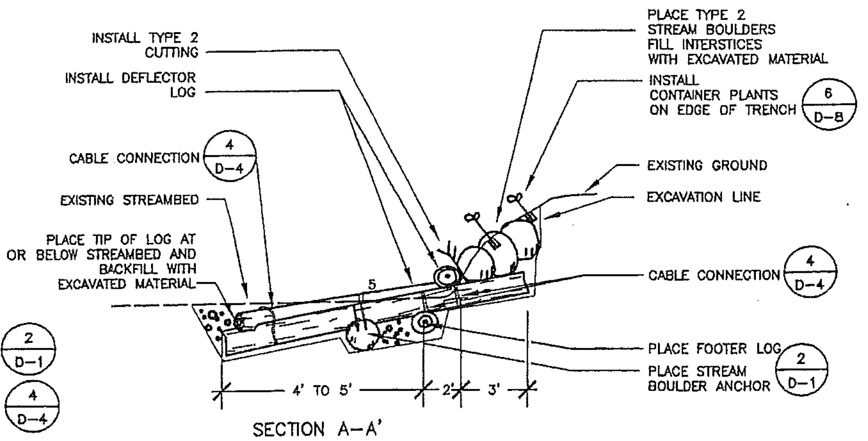
SECTION A–A'

3/D-3 OVERBANK WOODY MATERIAL (OWM)

Not To Scale


INSTALL TYPE 2 CUTTINGS (6) BEHIND LOG
PLACE TYPE 2 STREAM BOULDERS (5) EACH TRENCH
6' TO 8'
PLACE TYPE 1 STREAM BOULDERS (5) EACH END
CABLE CONNECTION (TYP)
BACKFILL 'V' WITH TYPE 1 STREAM BOULDERS (10) AND STREAMBED FILL
FLOW
INSTALL CONTAINER PLANTS (8) EACH TRENCH
EXISTING TOP OF BANK
EXCAVATION LINE
INSTALL TYPE 2 CUTTINGS (3) EACH END
EXISTING TOE OF BANK
FOOTER LOG
DEFLECTOR LOG
PLACE STREAM BOULDER ANCHOR 2/D-1
CABLE CONNECTION 4/D-4

PLAN


INSTALL TYPE 2 CUTTING
INSTALL DEFLECTOR LOG
CABLE CONNECTION 4/D-4
EXISTING STREAMBED
PLACE TIP OF LOG AT OR BELOW STREAMBED AND BACKFILL WITH EXCAVATED MATERIAL
5
1
4' TO 5'
2'
3'
PLACE TYPE 2 STREAM BOULDERS FILL INTERSTICES WITH EXCAVATED MATERIAL
INSTALL CONTAINER PLANTS ON EDGE OF TRENCH 6/D-8
EXISTING GROUND
EXCAVATION LINE
CABLE CONNECTION 4/D-4
PLACE FOOTER LOG 2/D-1
PLACE STREAM BOULDER ANCHOR

SECTION A–A'

NOTES:

1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY ENGINEER.
2. INSTALL CUTTINGS AT FACE OF TRENCH.
3. X = CONTAINER PLANTS
   ● = CUTTINGS
4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

4/D-3 WING DEFLECTOR

Not To Scale

AS BUILT

PROJECT SUPERVISOR

BY________

DATE________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN G.H./Ae.M.
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***

*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

INSTREAM STRUCTURES DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
D-3
38 OF 52

Plot Date: Thu 28 Feb 2002 - 8:13am
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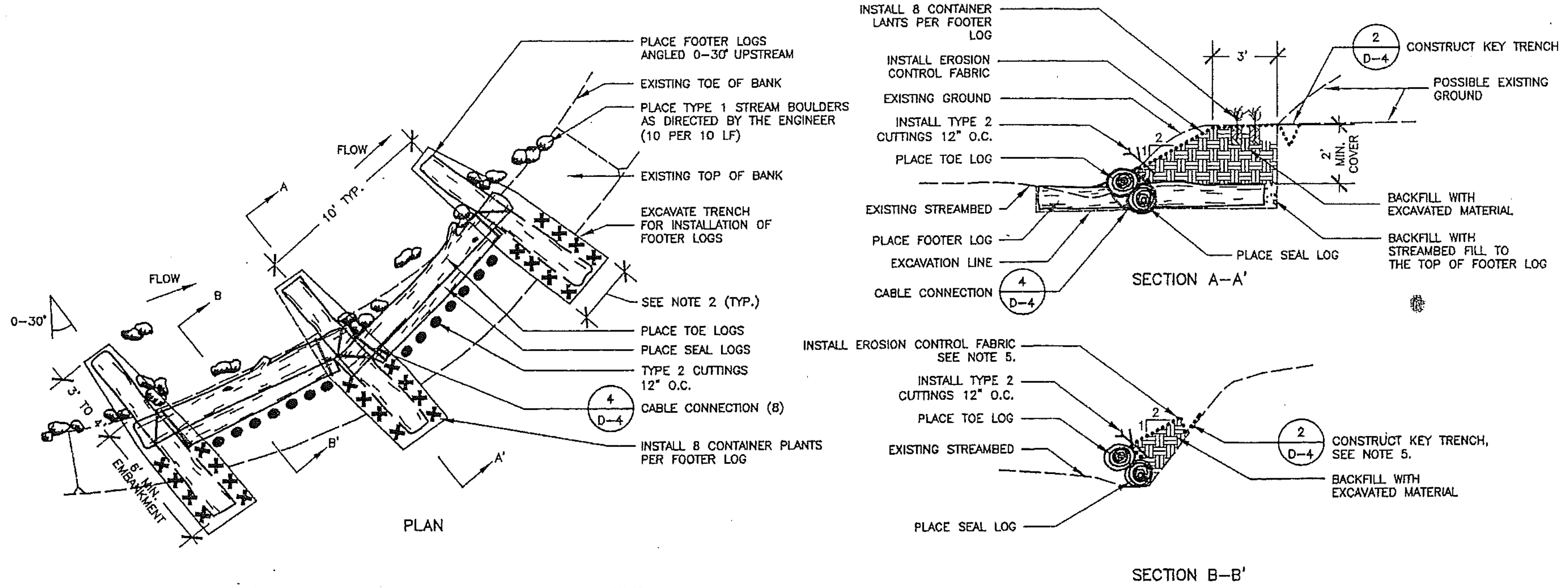
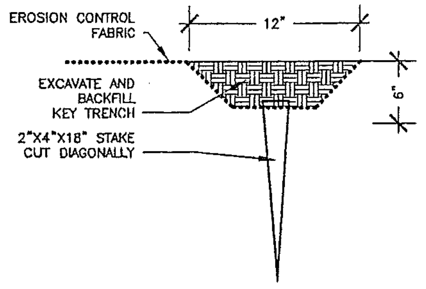

PLACE FOOTER LOGS ANGLED 0–30° UPSTREAM
EXISTING TOE OF BANK
PLACE TYPE 1 STREAM BOULDERS AS DIRECTED BY THE ENGINEER (10 PER 10 LF)
EXISTING TOP OF BANK
EXCAVATE TRENCH FOR INSTALLATION OF FOOTER LOGS
SEE NOTE 2 (TYP.)
PLACE TOE LOGS
PLACE SEAL LOGS
TYPE 2 CUTTINGS 12" O.C.
4 D-4 CABLE CONNECTION (8)
INSTALL 8 CONTAINER PLANTS PER FOOTER LOG
FLOW
FLOW
10' TYP.
0–30°
3' TO 4'
6' MIN. EMBANKMENT
A
A'
B
B'
PLAN
INSTALL 8 CONTAINER LANTS PER FOOTER LOG
INSTALL EROSION CONTROL FABRIC
EXISTING GROUND
INSTALL TYPE 2 CUTTINGS 12" O.C.
PLACE TOE LOG
EXISTING STREAMBED
PLACE FOOTER LOG
EXCAVATION LINE
CABLE CONNECTION 4 D-4
3'
2 D-4 CONSTRUCT KEY TRENCH
POSSIBLE EXISTING GROUND
2' MIN. COVER
BACKFILL WITH EXCAVATED MATERIAL
BACKFILL WITH STREAMBED FILL TO THE TOP OF FOOTER LOG
PLACE SEAL LOG
SECTION A–A'
INSTALL EROSION CONTROL FABRIC SEE NOTE 5.
INSTALL TYPE 2 CUTTINGS 12" O.C.
PLACE TOE LOG
EXISTING STREAMBED
PLACE SEAL LOG
2 D-4 CONSTRUCT KEY TRENCH, SEE NOTE 5.
BACKFILL WITH EXCAVATED MATERIAL
SECTION B–B'

NOTE:

1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY ENGINEER.
2. INSTALL EROSION CONTROL FABRIC ON SURFACE OF BACKFILL IN EXCAVATED TRENCH.
3. ✖= CONTAINER STOCK
   ● = CUTTINGS
4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.
5. IF WIDTH OF BACKFILL BEHIND TOE LOG IS LESS THAN 2 FEET, EROSION CONTROL FABRIC AND KEY TRENCH MAY BE OMITTED.

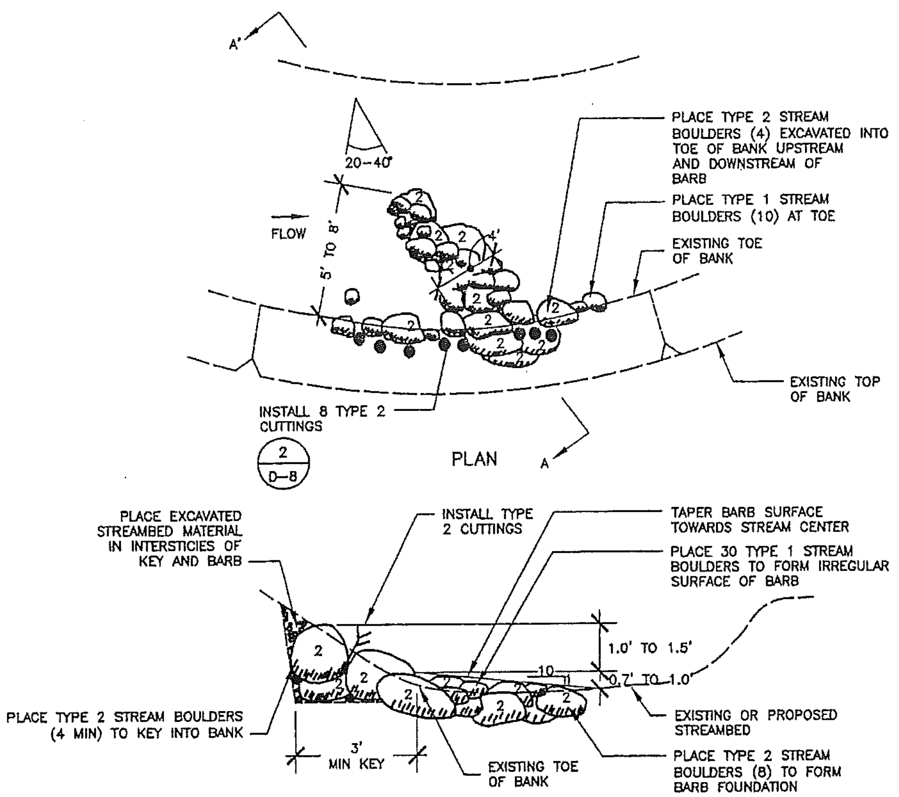
1/D-4 LOG TOE BANK STRUCTURE

Not To Scale


EROSION CONTROL FABRIC
12"
EXCAVATE AND BACKFILL KEY TRENCH
6"
2"X4"X18" STAKE CUT DIAGONALLY

2/D-4 KEY TRENCH

Not To Scale

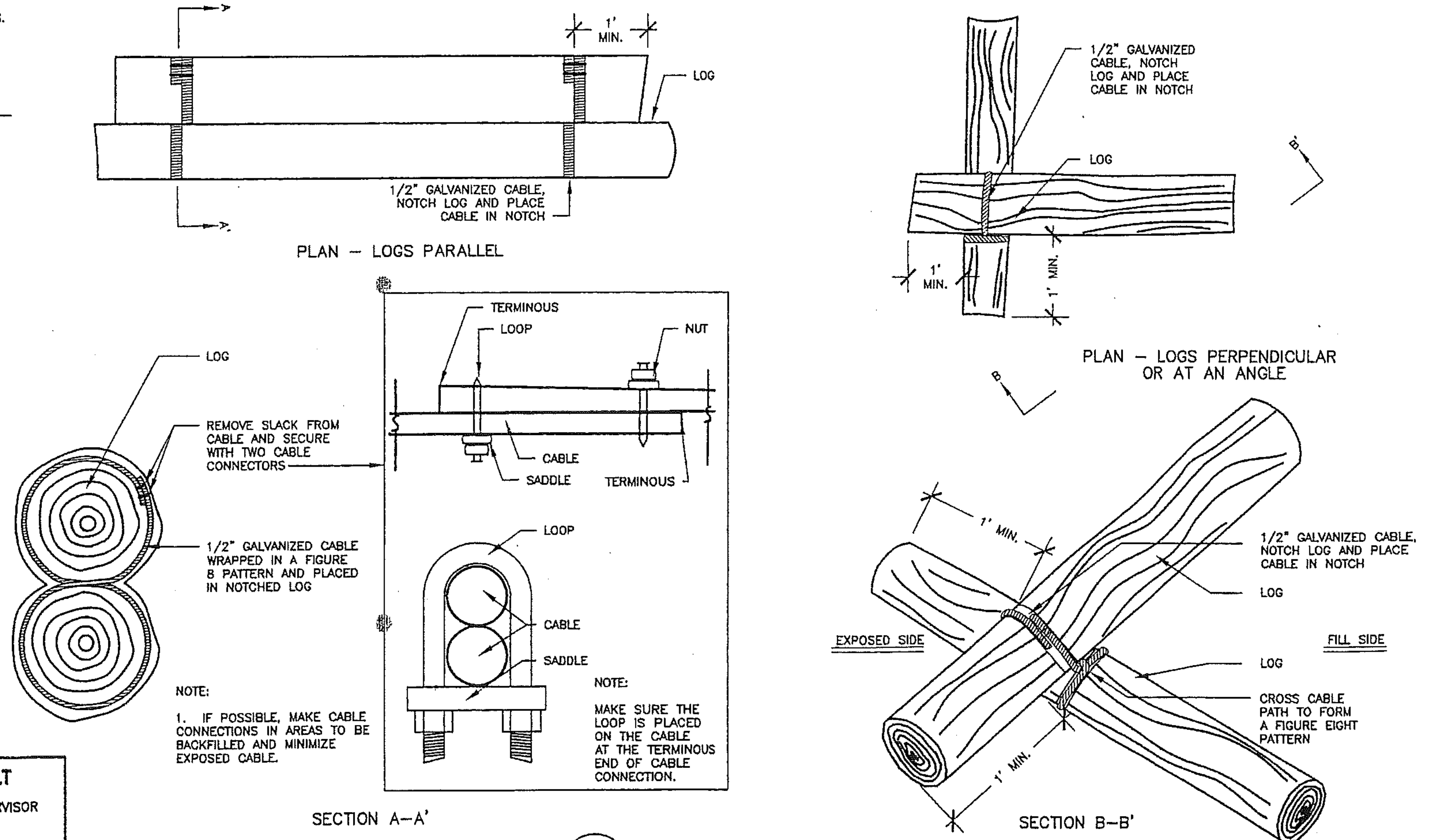

A'
20–40°
FLOW
5' TO 8'
PLACE TYPE 2 STREAM BOULDERS (4) EXCAVATED INTO TOE OF BANK UPSTREAM AND DOWNSTREAM OF BARB
PLACE TYPE 1 STREAM BOULDERS (10) AT TOE
EXISTING TOE OF BANK
EXISTING TOP OF BANK
INSTALL 8 TYPE 2 CUTTINGS 2 D-8
PLAN
A
PLACE EXCAVATED STREAMBED MATERIAL IN INTERSTICIES OF KEY AND BARB
INSTALL TYPE 2 CUTTINGS
TAPER BARB SURFACE TOWARDS STREAM CENTER
PLACE 30 TYPE 1 STREAM BOULDERS TO FORM IRREGULAR SURFACE OF BARB
1.0' TO 1.5'
10
0.7' TO 1.0'
EXISTING OR PROPOSED STREAMBED
PLACE TYPE 2 STREAM BOULDERS (8) TO FORM BARB FOUNDATION
EXISTING TOE OF BANK
3' MIN KEY
PLACE TYPE 2 STREAM BOULDERS (4 MIN) TO KEY INTO BANK

NOTES: SECTION A–A'

1. STREAM BOULDER PLACEMENT ILLUSTRATES CONSTRUCTION METHOD. PLACEMENT MAY VARY FOR EACH BARB AND WILL BE DIRECTED BY ENGINEER.
2. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.
3. ● = CUTTING
4. WHERE ROCK STREAM BARB IS INSTALLED IN ROCK TOE, PLACE STREAM BARB ROCK AS SHOWN AND TIE IN ROCK TOE.

3/D-4 ROCK STREAM BARB

Not To Scale


1' MIN.
LOG
1/2" GALVANIZED CABLE, NOTCH LOG AND PLACE CABLE IN NOTCH
PLAN – LOGS PARALLEL
1/2" GALVANIZED CABLE, NOTCH LOG AND PLACE CABLE IN NOTCH
LOG
1' MIN.
1' MIN.
B
B'
PLAN – LOGS PERPENDICULAR OR AT AN ANGLE
LOG
REMOVE SLACK FROM CABLE AND SECURE WITH TWO CABLE CONNECTORS
1/2" GALVANIZED CABLE WRAPPED IN A FIGURE 8 PATTERN AND PLACED IN NOTCHED LOG
TERMINOUS
LOOP
NUT
CABLE
SADDLE
TERMINOUS
LOOP
CABLE
SADDLE
SECTION A–A'
1' MIN.
1/2" GALVANIZED CABLE, NOTCH LOG AND PLACE CABLE IN NOTCH
LOG
EXPOSED SIDE
FILL SIDE
LOG
CROSS CABLE PATH TO FORM A FIGURE EIGHT PATTERN
1' MIN.
SECTION B–B'

NOTE:

1. IF POSSIBLE, MAKE CABLE CONNECTIONS IN AREAS TO BE BACKFILLED AND MINIMIZE EXPOSED CABLE.

NOTE:

MAKE SURE THE LOOP IS PLACED ON THE CABLE AT THE TERMINOUS END OF CABLE CONNECTION.

4/D-4 CABLE CONNECTION

Not To Scale

AS BUILT

PROJECT SUPERVISOR

BY ____________

DATE ____________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN S.A.B.
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
***Al M. Gurevich ***
*** 4/10/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

INSTREAM STRUCTURES DETAILS

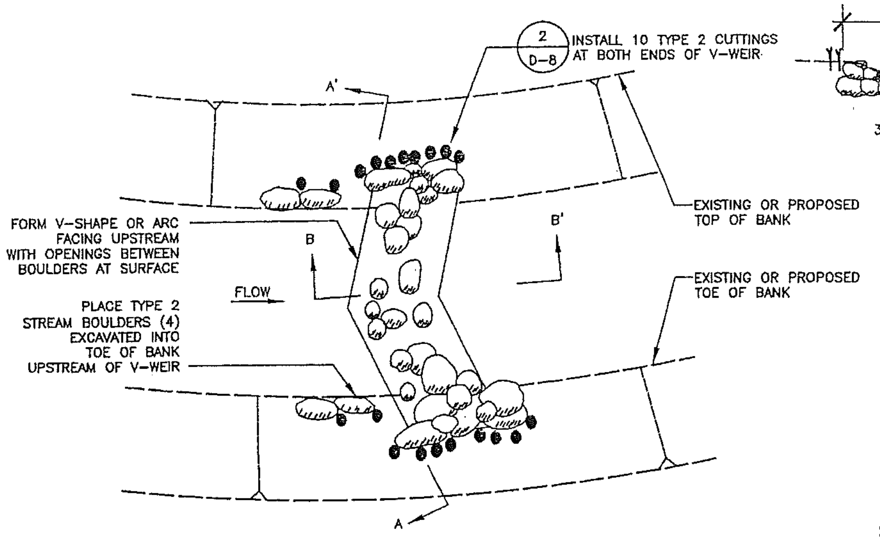
VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN

SHEET AB

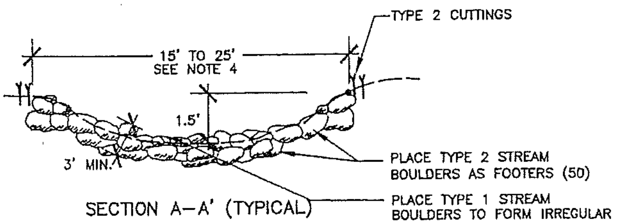
D-4

39 OF 52



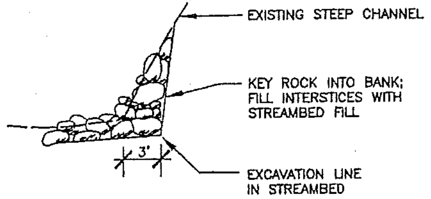
2 D-8 INSTALL 10 TYPE 2 CUTTINGS AT BOTH ENDS OF V-WEIR
A'
B'
B
FORM V-SHAPE OR ARC FACING UPSTREAM WITH OPENINGS BETWEEN BOULDERS AT SURFACE
FLOW
PLACE TYPE 2 STREAM BOULDERS (4) EXCAVATED INTO TOE OF BANK UPSTREAM OF V-WEIR
EXISTING OR PROPOSED TOP OF BANK
EXISTING OR PROPOSED TOE OF BANK
A

PLAN



TYPE 2 CUTTINGS
15' TO 25' SEE NOTE 4
1.5'
3' MIN.
PLACE TYPE 2 STREAM BOULDERS AS FOOTERS (50)
PLACE TYPE 1 STREAM BOULDERS TO FORM IRREGULAR WEIR SURFACE (100)

SECTION A–A' (TYPICAL)



EXISTING STEEP CHANNEL BANK
KEY ROCK INTO BANK; FILL INTERSTICES WITH STREAMBED FILL
3'
EXCAVATION LINE IN STREAMBED

SECTION A–A' (STEEP BANK)

NOTES:

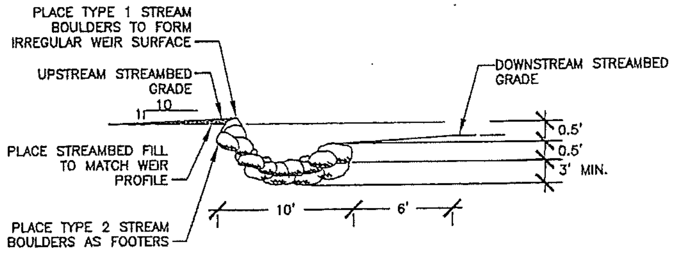
1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.

2. ● = CUTTINGS

3. REFER TO PLANTING PLANS FOR SPECIES AND QUANTITIES.

4. BOULDER QUANTITIES SHOWN ARE AVERAGE NUMBER PER STRUCTURE. QUANTITIES AND DIMENSIONS WILL VARY DEPENDING ON WIDTH OF EXISTING CHANNEL.

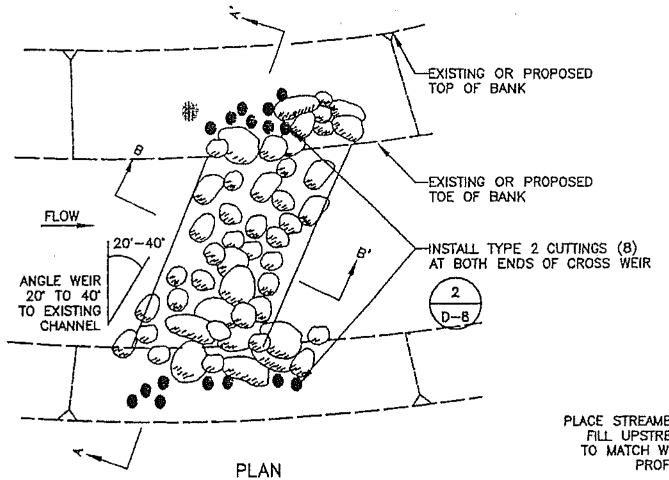
5. IN CHANNEL REALIGNMENT SECTIONS, STREAMBED FILL AT UPSTREAM SIDE OF WEIR NOT REQUIRED.



PLACE TYPE 1 STREAM BOULDERS TO FORM IRREGULAR WEIR SURFACE
UPSTREAM STREAMBED GRADE
DOWNSTREAM STREAMBED GRADE
1
10
0.5'
0.5'
3' MIN.
PLACE STREAMBED FILL TO MATCH WEIR PROFILE
PLACE TYPE 2 STREAM BOULDERS AS FOOTERS
10'
6'

SECTION B–B'

1/D-5 V–WEIR
Not To Scale



A'
B
FLOW
20'–40'
ANGLE WEIR 20° TO 40° TO EXISTING CHANNEL
EXISTING OR PROPOSED TOP OF BANK
EXISTING OR PROPOSED TOE OF BANK
B'
INSTALL TYPE 2 CUTTINGS (8) AT BOTH ENDS OF CROSS WEIR
2 D-8
A

PLAN

NOTES:

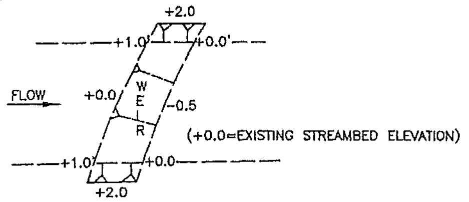
1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.

2. ● = CUTTINGS

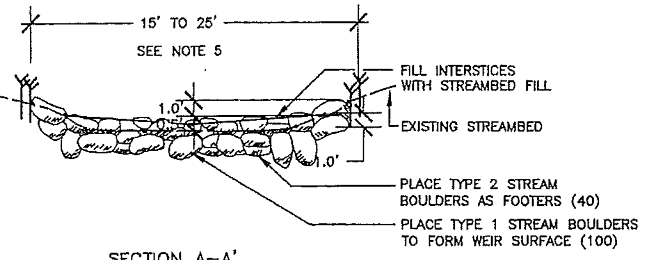
3. REFER TO PLANTING PLANS FOR SPECIES AND QUANTITIES.

4. FOR PLACEMENT AT SITES WITH STEEP CHANNEL BANKS, SEE V–WEIR SECTION A–A' (STEEP BANKS). 1/D-5

5. BOULDER QUANTITIES SHOWN ARE AVERAGE NUMBER PER STRUCTURE. QUANTITIES AND DIMENSIONS WILL VARY DEPENDING ON WIDTH OF EXISTING CHANNEL.

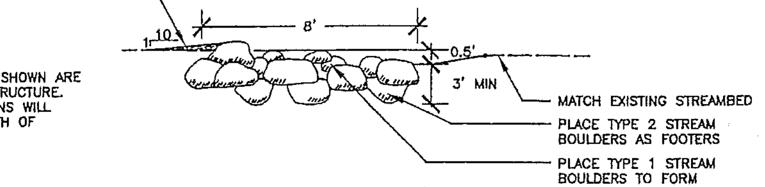


ELEVATION PLAN



15' TO 25'
SEE NOTE 5
FILL INTERSTICES WITH STREAMBED FILL
EXISTING STREAMBED
1.0'
1.0'
PLACE TYPE 2 STREAM BOULDERS AS FOOTERS (40)
PLACE TYPE 1 STREAM BOULDERS TO FORM WEIR SURFACE (100)

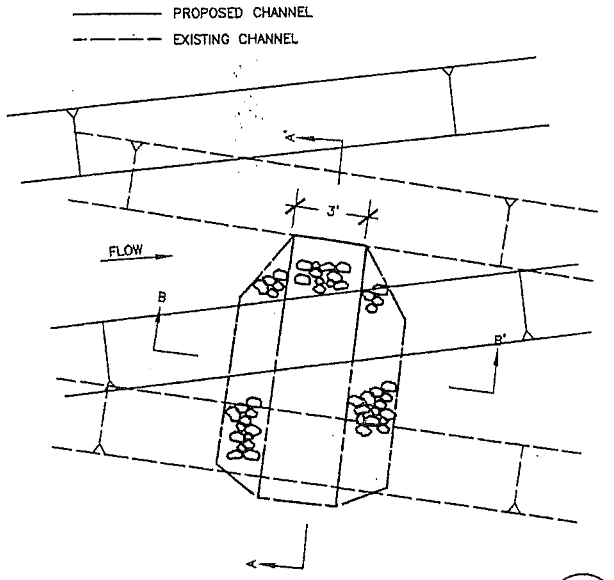
SECTION A–A'



PLACE STREAMBED FILL UPSTREAM TO MATCH WEIR PROFILE
1
10
8'
0.5'
3' MIN
MATCH EXISTING STREAMBED
PLACE TYPE 2 STREAM BOULDERS AS FOOTERS
PLACE TYPE 1 STREAM BOULDERS TO FORM IRREGULAR WEIR SURFACE

SECTION B–B'

2/D-5 CROSS WEIR
Not To Scale



PLAN

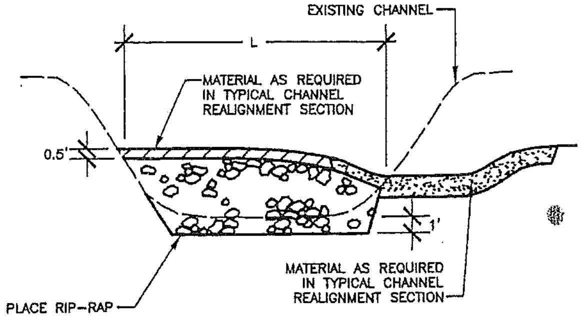
NOTES:

1. PLACE RIP-RAP IN 12" LIFTS. FILL INTERSTICIES WITH STREAMBED FILL IN EACH SUCCESSIVE LIFT. STREAMBED FILL MATERIAL TOO LARGE TO FIT IN INTERSTICIES WILL BE REMOVED FROM TOP OF GROIN BEFORE PLACEMENT OF ADDITIONAL LIFTS.

2. GROIN AT 12+98 WILL BE 2' DEEP BY 15' LONG; BACKFILL WITH EXCAVATED MATERIAL.

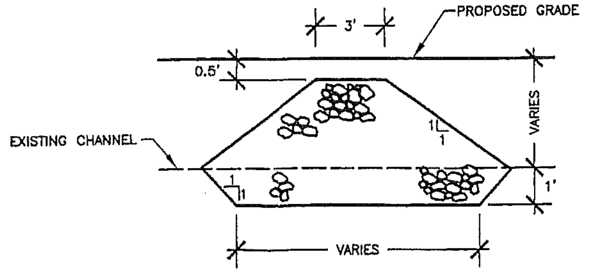
L–TABLE

STATION	L (FT)	APPROXIMATE TONS
12+98	15	10
21+74	21	20
22+55	11	10
23+18	21	20
23+57	23	20
27+20	35	15
28+60	25	20
53+71	21	30
54+40	23	45
56+62	20	18
57+10	12	10
67+97	18	10
69+10	26	16
69+53	20	17
70+45	26	34
71+00	24	26
71+24	15	11



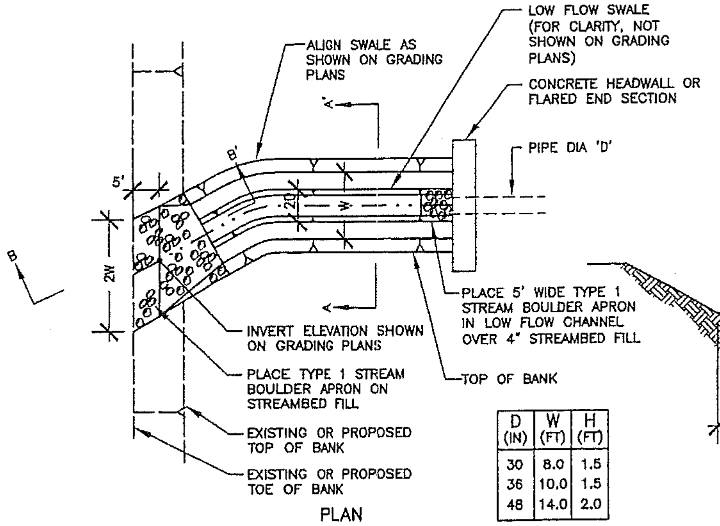
EXISTING CHANNEL
L
MATERIAL AS REQUIRED IN TYPICAL CHANNEL REALIGNMENT SECTION
0.5'
1'
MATERIAL AS REQUIRED IN TYPICAL CHANNEL REALIGNMENT SECTION
PLACE RIP–RAP

SECTION A–A'



SECTION B–B'

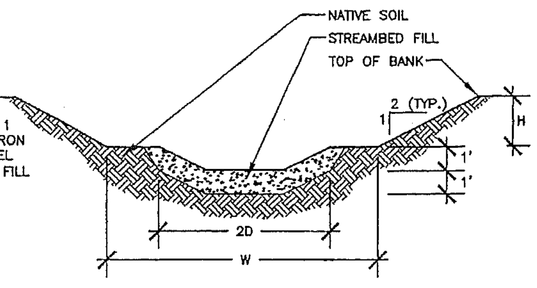
3/D-5 BURIED GROIN
Not To Scale



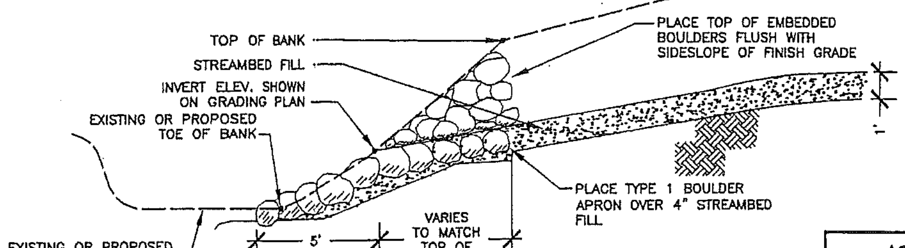
ALIGN SWALE AS SHOWN ON GRADING PLANS
LOW FLOW SWALE (FOR CLARITY, NOT SHOWN ON GRADING PLANS)
CONCRETE HEADWALL OR FLARED END SECTION
PIPE DIA 'D'
A'
B'
5'
2D
W
2W
B
PLACE 5' WIDE TYPE 1 STREAM BOULDER APRON IN LOW FLOW CHANNEL OVER 4" STREAMBED FILL
INVERT ELEVATION SHOWN ON GRADING PLANS
PLACE TYPE 1 STREAM BOULDER APRON ON STREAMBED FILL
TOP OF BANK
EXISTING OR PROPOSED TOP OF BANK
EXISTING OR PROPOSED TOE OF BANK
A

D (IN)	W (FT)	H (FT)
30	8.0	1.5
36	10.0	1.5
48	14.0	2.0

PLAN



SECTION A–A'



TOP OF BANK
STREAMBED FILL
INVERT ELEV. SHOWN ON GRADING PLAN
EXISTING OR PROPOSED TOE OF BANK
PLACE TOP OF EMBEDDED BOULDERS FLUSH WITH SIDESLOPE OF FINISH GRADE
1'
PLACE TYPE 1 BOULDER APRON OVER 4" STREAMBED FILL
EXISTING OR PROPOSED STREAMBED
5'
VARIES TO MATCH TOP OF BANK

SECTION B–B'

4/D-5 DRAINAGE SWALE
Not To Scale

AS BUILT
PROJECT SUPERVISOR
BY________
DATE________

REV	DESCRIPTION	DATE	APPR
AB	AS–BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691–3430

ORIGINAL STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN Staff
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

INSTREAM STRUCTURES DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN

SHEET AB
D–5
40 OF 52

Plot Date: Mon 18 Feb 2002 – 12:18am
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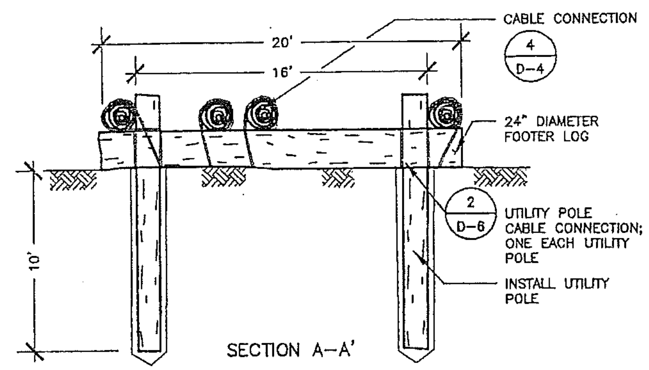
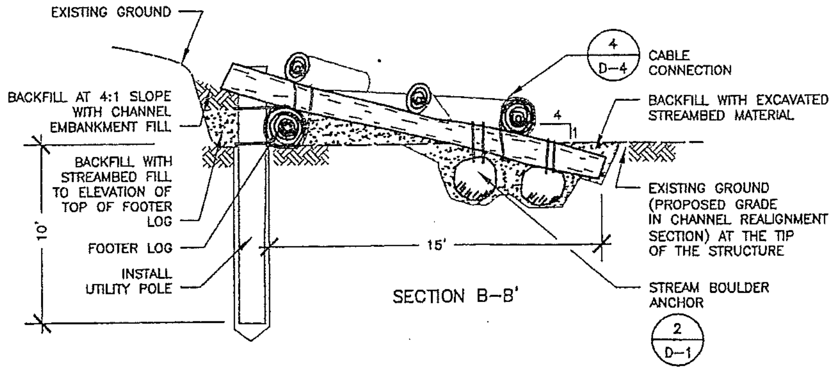
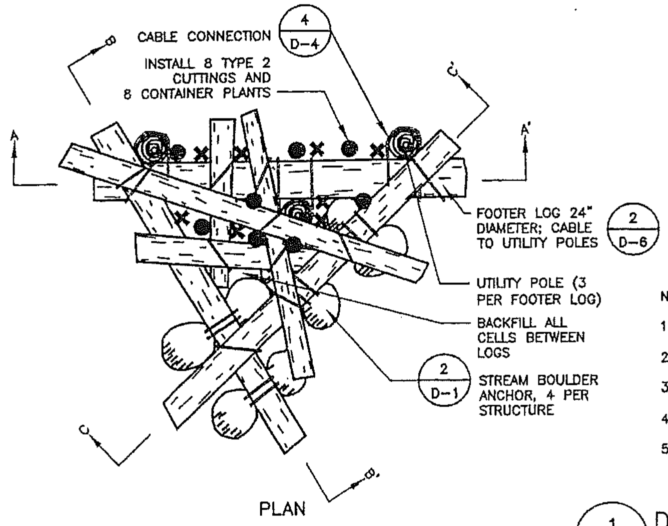


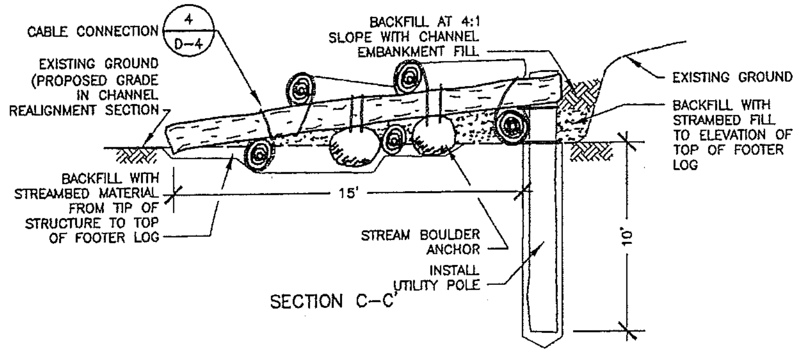
SECTION A–A'


EXISTING GROUND
BACKFILL AT 4:1 SLOPE WITH CHANNEL EMBANKMENT FILL
BACKFILL WITH STREAMBED FILL TO ELEVATION OF TOP OF FOOTER LOG
FOOTER LOG
INSTALL UTILITY POLE
10'
15'
4
1
4
D-4
CABLE CONNECTION
BACKFILL WITH EXCAVATED STREAMBED MATERIAL
EXISTING GROUND (PROPOSED GRADE IN CHANNEL REALIGNMENT SECTION) AT THE TIP OF THE STRUCTURE
STREAM BOULDER ANCHOR
2
D-1

SECTION B–B'


B
C
A
A'
CABLE CONNECTION
4
D-4
INSTALL 8 TYPE 2 CUTTINGS AND 8 CONTAINER PLANTS
FOOTER LOG 24" DIAMETER; CABLE TO UTILITY POLES
2
D-6
UTILITY POLE (3 PER FOOTER LOG)
BACKFILL ALL CELLS BETWEEN LOGS
STREAM BOULDER ANCHOR, 4 PER STRUCTURE
2
D-1
C'
B'

PLAN

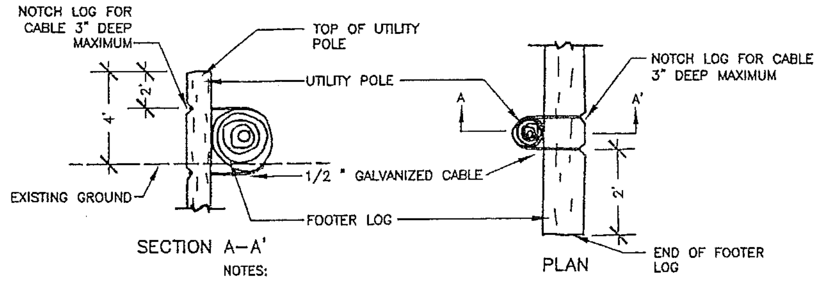

CABLE CONNECTION
4
D-4
EXISTING GROUND (PROPOSED GRADE IN CHANNEL REALIGNMENT SECTION)
BACKFILL AT 4:1 SLOPE WITH CHANNEL EMBANKMENT FILL
EXISTING GROUND
BACKFILL WITH STRAMBED FILL TO ELEVATION OF TOP OF FOOTER LOG
BACKFILL WITH STREAMBED MATERIAL FROM TIP OF STRUCTURE TO TOP OF FOOTER LOG
15'
STREAM BOULDER ANCHOR
INSTALL UTILITY POLE
10'

SECTION C–C'

NOTES:

1. ACTUAL LOCATION AND PLACEMENT WILL BE DIRECTED BY THE ENGINEER.
2. ALL LOGS ARE 12" TO 18" DIAMETER EXCEPT FOR THE FOOTER LOG.
3. PLACEMENT OF LOGS IN STRUCTURE TO VARY TO FIT FIELD CONDITIONS AND MATERIAL DIMENSIONS.
4. TOP ELEVATION OF FOOTER LOG TO BE 2' ABOVE GROUND ELEVATION AT TIP OF STRUCTURE.
5. ✖ =CONTAINER STOCK
   ● = TYPE 2 CUTTING

1 D-6 DEBRIS JAM
Not To Scale

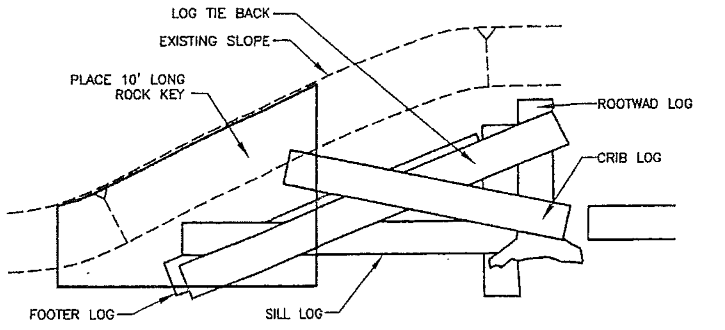


SECTION A–A'

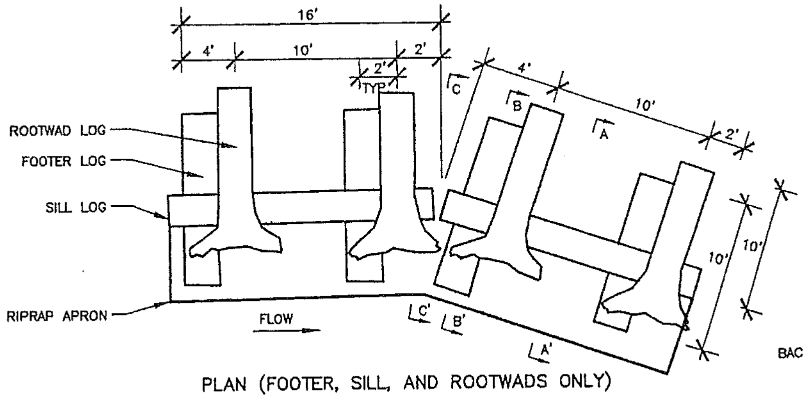
PLAN

NOTES:
1. CONNECT CABLES WITH 2 CABLE CONNECTORS; SEE CABLE CONNECTION DETAIL: 4 D-4

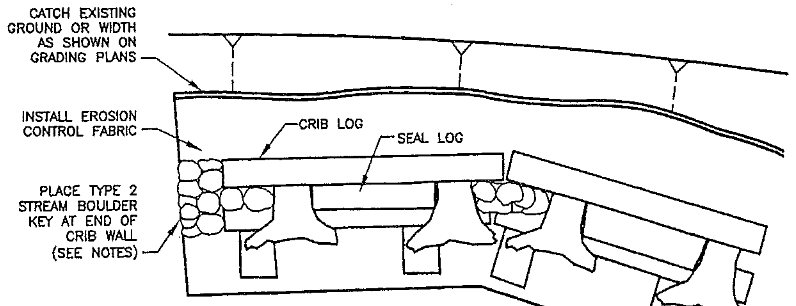
2 D-6 UTILITY POLE CABLE CONNECTION
Not To Scale



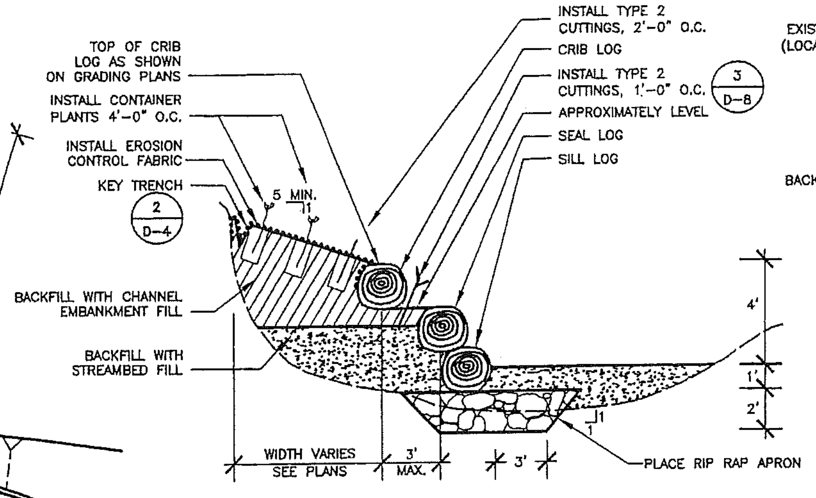
4 D-6 CRIB WALL END SECTION
Not To Scale



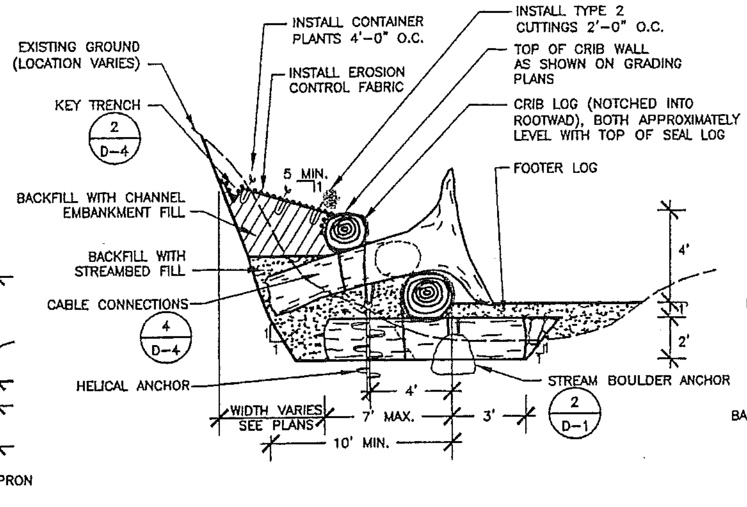
PLAN (FOOTER, SILL, AND ROOTWADS ONLY)


CATCH EXISTING GROUND OR WIDTH AS SHOWN ON GRADING PLANS
INSTALL EROSION CONTROL FABRIC
CRIB LOG
SEAL LOG
PLACE TYPE 2 STREAM BOULDER KEY AT END OF CRIB WALL (SEE NOTES)

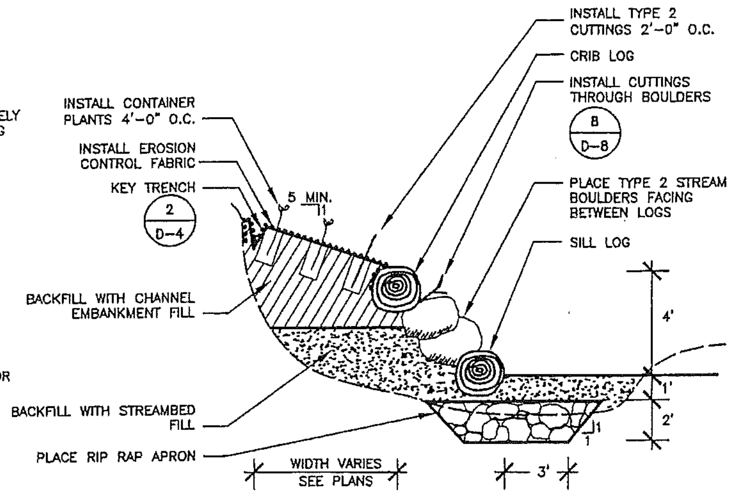
TOP PLAN


TOP OF CRIB LOG AS SHOWN ON GRADING PLANS
INSTALL CONTAINER PLANTS 4'-0" O.C.
INSTALL EROSION CONTROL FABRIC
KEY TRENCH
2
D-4
5 MIN.
1
BACKFILL WITH CHANNEL EMBANKMENT FILL
BACKFILL WITH STREAMBED FILL
INSTALL TYPE 2 CUTTINGS, 2'-0" O.C.
CRIB LOG
INSTALL TYPE 2 CUTTINGS, 1'-0" O.C.
3
B-8
APPROXIMATELY LEVEL
SEAL LOG
SILL LOG
4'
1'
2'
WIDTH VARIES SEE PLANS
3' MAX.
3'
1
PLACE RIP RAP APRON

SECTION A–A'


EXISTING GROUND (LOCATION VARIES)
KEY TRENCH
2
D-4
BACKFILL WITH CHANNEL EMBANKMENT FILL
BACKFILL WITH STREAMBED FILL
CABLE CONNECTIONS
4
D-4
HELICAL ANCHOR
INSTALL CONTAINER PLANTS 4'-0" O.C.
INSTALL EROSION CONTROL FABRIC
5 MIN.
1
INSTALL TYPE 2 CUTTINGS 2'-0" O.C.
TOP OF CRIB WALL AS SHOWN ON GRADING PLANS
CRIB LOG (NOTCHED INTO ROOTWAD), BOTH APPROXIMATELY LEVEL WITH TOP OF SEAL LOG
FOOTER LOG
4'
2'
1
STREAM BOULDER ANCHOR
2
D-1
WIDTH VARIES SEE PLANS
4'
7' MAX.
3'
10' MIN.

SECTION B–B'


INSTALL CONTAINER PLANTS 4'-0" O.C.
INSTALL EROSION CONTROL FABRIC
KEY TRENCH
2
D-4
5 MIN.
1
BACKFILL WITH CHANNEL EMBANKMENT FILL
BACKFILL WITH STREAMBED FILL
PLACE RIP RAP APRON
INSTALL TYPE 2 CUTTINGS 2'-0" O.C.
CRIB LOG
INSTALL CUTTINGS THROUGH BOULDERS
B
D-8
PLACE TYPE 2 STREAM BOULDERS FACING BETWEEN LOGS
SILL LOG
4'
1'
2'
1
WIDTH VARIES SEE PLANS
3'

SECTION C–C"

NOTE:

1. BOTTOM OF CRIB LOG AND TOP OF SEAL LOG ARE APPROXIMATELY LEVEL.

2. LOGS MAY BE NOTCHED UP TO 3" TO ACHIEVE DIMENSIONS SHOWN.

3. PLACEMENT OF STREAMBED FILL MAY BE REQUIRED TO FILL SCOUR HOLES OF THE EXISTING STREAMBED, TO ALLOW PROPER PLACEMENT OF FOOTER LOGS.

4. REFER TO PLANTING PLANS FOR PLANT SPECIES AND QUANTITIES.

5. BUTT ENDS OF CRIB AND FOOTER LOGS.

6. PLACE 10 TYPE 2 STREAM BOULDERS TO FORM KEY AT EACH END OF CRIB WALL, 5' WIDE BY 3' INTO BANK. MATCH EXISTING SLOPE AND TOP OF CRIB WALL.

3 D-6 CRIB WALL
Not To Scale

AS BUILT
PROJECT SUPERVISOR
BY
DATE

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN S.A.B.
CHECKED E.W./J.Z.

Santa Clara Valley Water District
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT
INSTREAM STRUCTURES DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
D–6
41 OF 52

Plot Date: Thu 28 Feb 2002 – 8:55am
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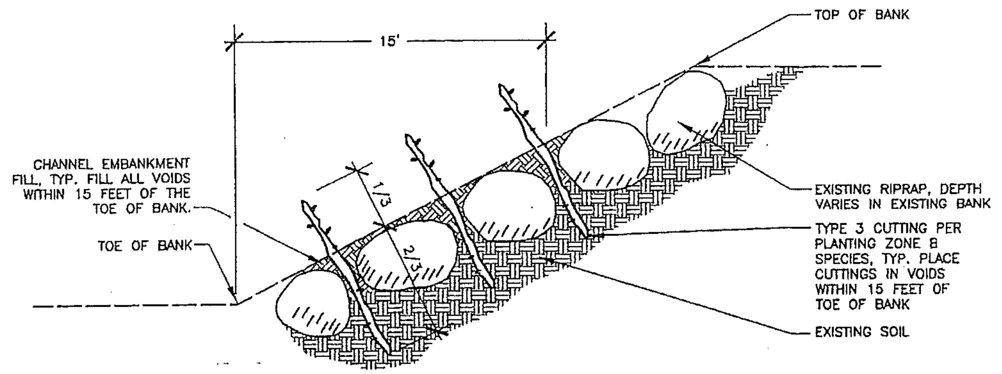

TOP OF BANK
15'
CHANNEL EMBANKMENT FILL, TYP. FILL ALL VOIDS WITHIN 15 FEET OF THE TOE OF BANK.
TOE OF BANK
1/3
2/3
EXISTING RIPRAP, DEPTH VARIES IN EXISTING BANK
TYPE 3 CUTTING PER PLANTING ZONE B SPECIES, TYP. PLACE CUTTINGS IN VOIDS WITHIN 15 FEET OF TOE OF BANK
EXISTING SOIL

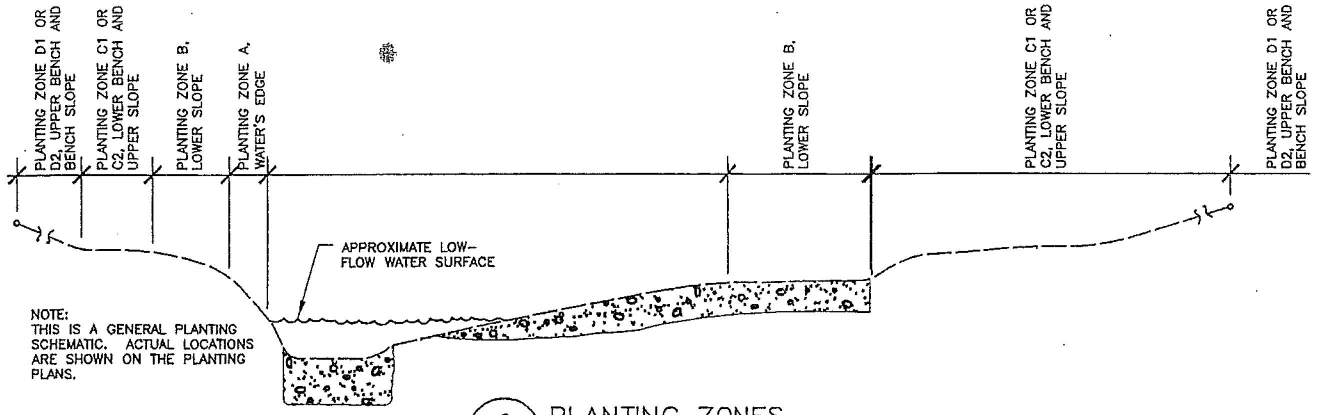
SECTION

NOTES:

1. CHANNEL EMBANKMENT FILL WILL BE PLACED IN VOIDS AND THEN WATER JETTED IN PLACE. AFTER SETTLEMENT, A SECOND LIFT OF CHANNEL EMBANKMENT FILL WILL THEN BE PLACED TO FILL VOIDS TO TOP OF RIPRAP.

CUTTING INSTALLATION IN EXISTING RIPRAP STA. PT. 78+95 TO 80+70

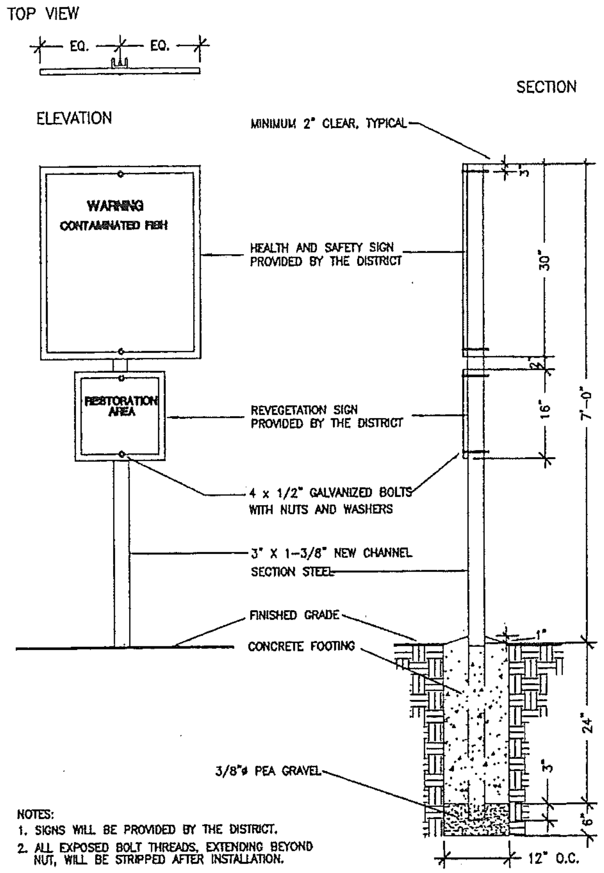
1 / D-7 Not To Scale — Section


PLANTING ZONE D1 OR D2, UPPER BENCH AND BENCH SLOPE
PLANTING ZONE C1 OR C2, LOWER BENCH AND UPPER SLOPE
PLANTING ZONE B, LOWER SLOPE
PLANTING ZONE A, WATER'S EDGE
PLANTING ZONE B, LOWER SLOPE
PLANTING ZONE C1 OR C2, LOWER BENCH AND UPPER SLOPE
PLANTING ZONE D1 OR D2, UPPER BENCH AND BENCH SLOPE
APPROXIMATE LOW-FLOW WATER SURFACE

NOTE:
THIS IS A GENERAL PLANTING SCHEMATIC. ACTUAL LOCATIONS ARE SHOWN ON THE PLANTING PLANS.

PLANTING ZONES

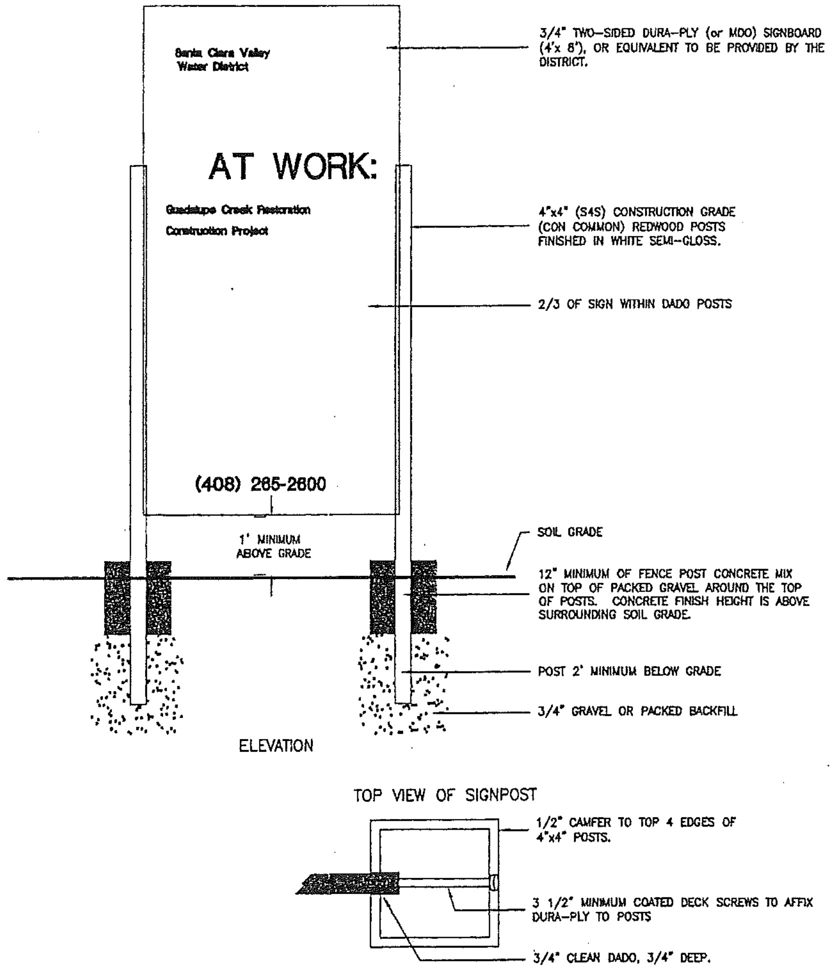
2 / D-7 Not To Scale — SECTION LOOKING UPSTREAM


TOP VIEW
EQ.
EQ.
ELEVATION
SECTION
MINIMUM 2" CLEAR, TYPICAL
WARNING
CONTAMINATED FISH
HEALTH AND SAFETY SIGN PROVIDED BY THE DISTRICT
RESTORATION AREA
REVEGETATION SIGN PROVIDED BY THE DISTRICT
4 x 1/2" GALVANIZED BOLTS WITH NUTS AND WASHERS
3" X 1-3/8" NEW CHANNEL SECTION STEEL
FINISHED GRADE
CONCRETE FOOTING
3/8"ø PEA GRAVEL
3"
30"
2"
16"
7'-0"
1"
24"
3"
6"
12" O.C.

NOTES:
1. SIGNS WILL BE PROVIDED BY THE DISTRICT.
2. ALL EXPOSED BOLT THREADS, EXTENDING BEYOND NUT, WILL BE STRIPPED AFTER INSTALLATION.

PERMANENT SIGNS

3 / D-7 NOT TO SCALE


Santa Clara Valley Water District
AT WORK:
Guadalupe Creek Restoration Construction Project
(408) 265-2600
3/4" TWO-SIDED DURA-PLY (or MDO) SIGNBOARD (4'x 8'), OR EQUIVALENT TO BE PROVIDED BY THE DISTRICT.
4"x4" (S4S) CONSTRUCTION GRADE (CON COMMON) REDWOOD POSTS FINISHED IN WHITE SEMI-GLOSS.
2/3 OF SIGN WITHIN DADO POSTS
1' MINIMUM ABOVE GRADE
SOIL GRADE
12" MINIMUM OF FENCE POST CONCRETE MIX ON TOP OF PACKED GRAVEL AROUND THE TOP OF POSTS. CONCRETE FINISH HEIGHT IS ABOVE SURROUNDING SOIL GRADE.
POST 2' MINIMUM BELOW GRADE
3/4" GRAVEL OR PACKED BACKFILL
ELEVATION
TOP VIEW OF SIGNPOST
1/2" CAMFER TO TOP 4 EDGES OF 4"x4" POSTS.
3 1/2" MINIMUM COATED DECK SCREWS TO AFFIX DURA-PLY TO POSTS
3/4" CLEAN DADO, 3/4" DEEP.

TEMPORARY SIGNS

4 / D-7 NOT TO SCALE

AS BUILT

PROJECT SUPERVISOR

BY ____________

DATE ____________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E. Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN Staff
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevick ***

*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

PLANTING DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
D-7
42 OF 52

Plot Date: Thu 28 Feb 2002 - 8:56am
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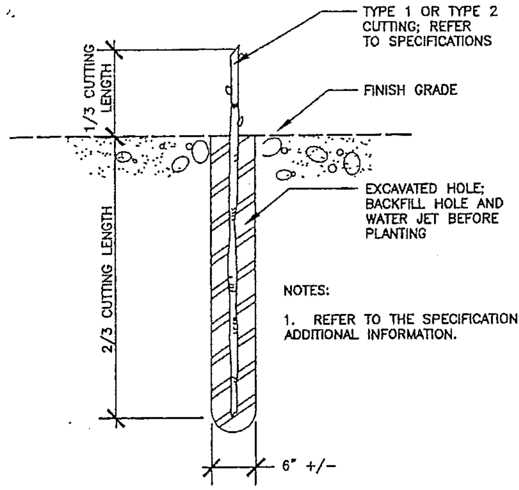
4 3 2
A B C D E F G H

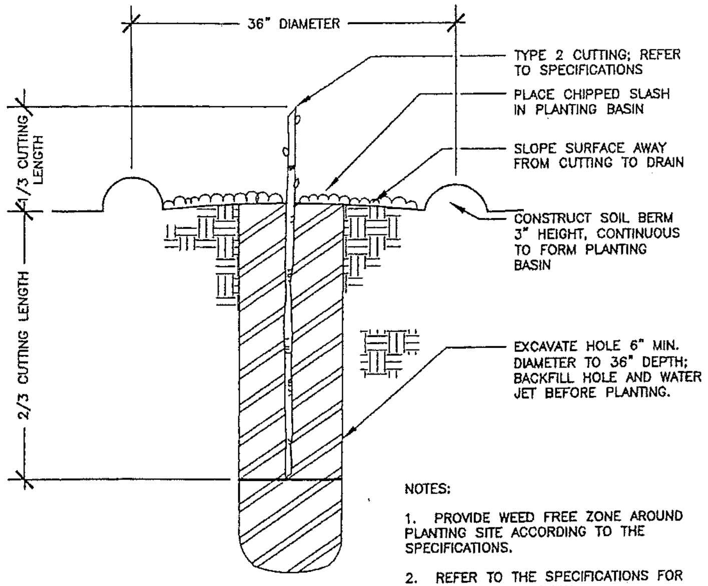

TYPE 1 OR TYPE 2 CUTTING; REFER TO SPECIFICATIONS
FINISH GRADE
EXCAVATED HOLE; BACKFILL HOLE AND WATER JET BEFORE PLANTING
1/3 CUTTING LENGTH
2/3 CUTTING LENGTH
6" +/-

NOTES:

1. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 / D-8 TYPE 1 OR TYPE 2 CUTTING– ZONE A AND INSTREAM STRUCTURES

Not To Scale


36" DIAMETER
TYPE 2 CUTTING; REFER TO SPECIFICATIONS
PLACE CHIPPED SLASH IN PLANTING BASIN
SLOPE SURFACE AWAY FROM CUTTING TO DRAIN
CONSTRUCT SOIL BERM 3" HEIGHT, CONTINUOUS TO FORM PLANTING BASIN
EXCAVATE HOLE 6" MIN. DIAMETER TO 36" DEPTH; BACKFILL HOLE AND WATER JET BEFORE PLANTING.
1/3 CUTTING LENGTH
2/3 CUTTING LENGTH

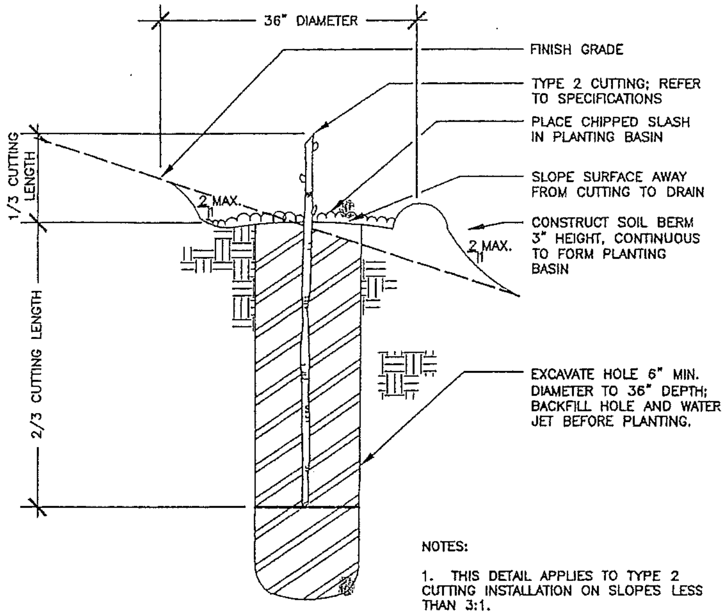
NOTES:

1. PROVIDE WEED FREE ZONE AROUND PLANTING SITE ACCORDING TO THE SPECIFICATIONS.

2. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2 / D-8 TYPE 2 CUTTING–ZONE C

Not To Scale


36" DIAMETER
FINISH GRADE
TYPE 2 CUTTING; REFER TO SPECIFICATIONS
PLACE CHIPPED SLASH IN PLANTING BASIN
SLOPE SURFACE AWAY FROM CUTTING TO DRAIN
CONSTRUCT SOIL BERM 3" HEIGHT, CONTINUOUS TO FORM PLANTING BASIN
2 MAX.
1
2 MAX.
1
EXCAVATE HOLE 6" MIN. DIAMETER TO 36" DEPTH; BACKFILL HOLE AND WATER JET BEFORE PLANTING.
1/3 CUTTING LENGTH
2/3 CUTTING LENGTH

NOTES:

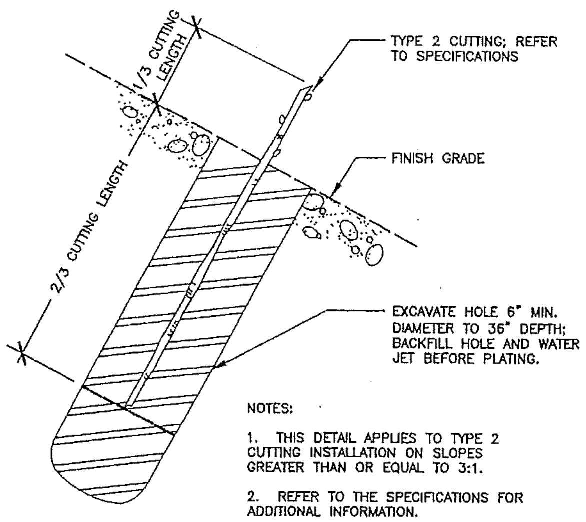
1. THIS DETAIL APPLIES TO TYPE 2 CUTTING INSTALLATION ON SLOPES LESS THAN 3:1.

2. PROVIDE WEED FREE ZONE AROUND PLANTING SITE ACCORDING TO THE SPECIFICATIONS.

3. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

3 / D-8 TYPE 2 CUTTING–ZONES B AND C

Not To Scale


TYPE 2 CUTTING; REFER TO SPECIFICATIONS
FINISH GRADE
EXCAVATE HOLE 6" MIN. DIAMETER TO 36" DEPTH; BACKFILL HOLE AND WATER JET BEFORE PLATING.
1/3 CUTTING LENGTH
2/3 CUTTING LENGTH

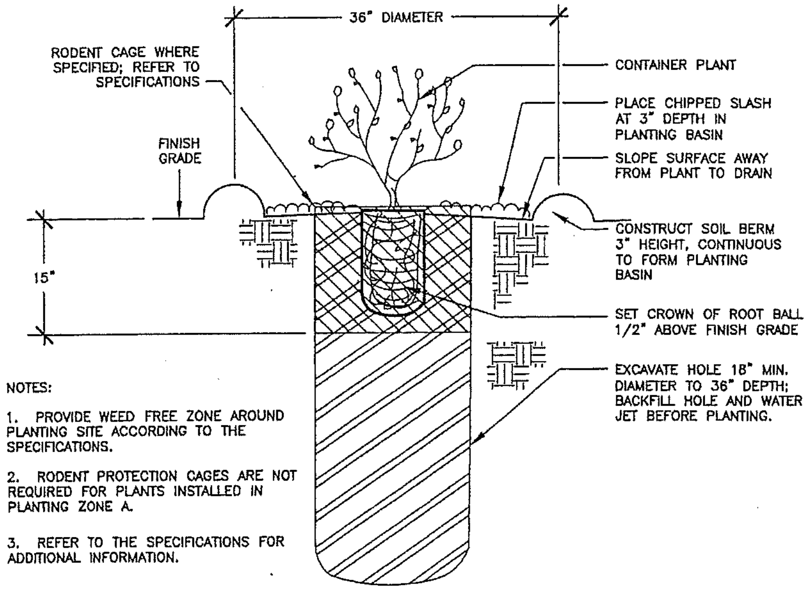
NOTES:

1. THIS DETAIL APPLIES TO TYPE 2 CUTTING INSTALLATION ON SLOPES GREATER THAN OR EQUAL TO 3:1.

2. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

4 / D-8 TYPE 2 CUTTING–ZONE B

Not To Scale


36" DIAMETER
RODENT CAGE WHERE SPECIFIED; REFER TO SPECIFICATIONS
FINISH GRADE
CONTAINER PLANT
PLACE CHIPPED SLASH AT 3" DEPTH IN PLANTING BASIN
SLOPE SURFACE AWAY FROM PLANT TO DRAIN
CONSTRUCT SOIL BERM 3" HEIGHT, CONTINUOUS TO FORM PLANTING BASIN
SET CROWN OF ROOT BALL 1/2" ABOVE FINISH GRADE
EXCAVATE HOLE 18" MIN. DIAMETER TO 36" DEPTH; BACKFILL HOLE AND WATER JET BEFORE PLANTING.
15"

NOTES:

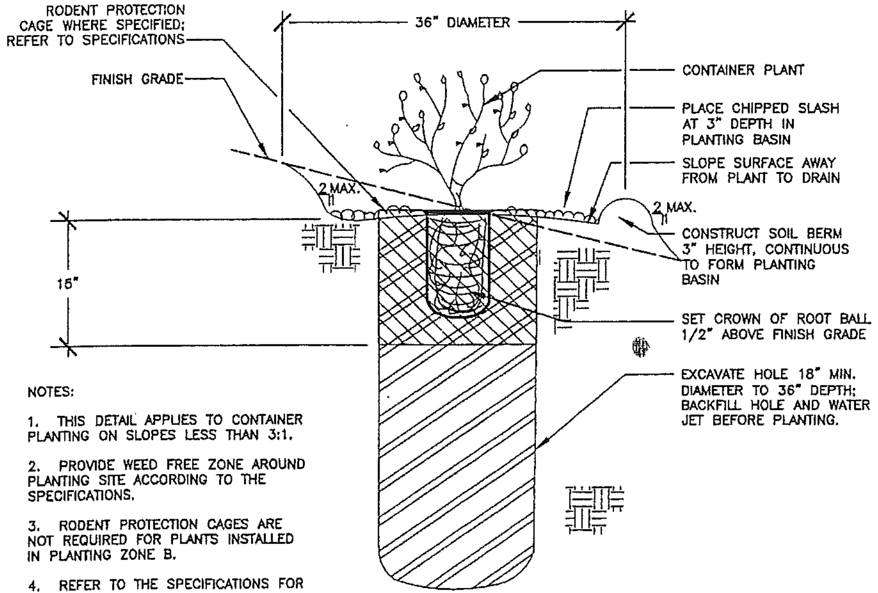
1. PROVIDE WEED FREE ZONE AROUND PLANTING SITE ACCORDING TO THE SPECIFICATIONS.

2. RODENT PROTECTION CAGES ARE NOT REQUIRED FOR PLANTS INSTALLED IN PLANTING ZONE A.

3. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

5 / D-8 CONTAINER PLANTING–ZONES C AND D

Not To Scale


36" DIAMETER
RODENT PROTECTION CAGE WHERE SPECIFIED; REFER TO SPECIFICATIONS
FINISH GRADE
CONTAINER PLANT
PLACE CHIPPED SLASH AT 3" DEPTH IN PLANTING BASIN
SLOPE SURFACE AWAY FROM PLANT TO DRAIN
2 MAX.
1
2 MAX.
1
CONSTRUCT SOIL BERM 3" HEIGHT, CONTINUOUS TO FORM PLANTING BASIN
SET CROWN OF ROOT BALL 1/2" ABOVE FINISH GRADE
EXCAVATE HOLE 18" MIN. DIAMETER TO 36" DEPTH; BACKFILL HOLE AND WATER JET BEFORE PLANTING.
15"

NOTES:

1. THIS DETAIL APPLIES TO CONTAINER PLANTING ON SLOPES LESS THAN 3:1.

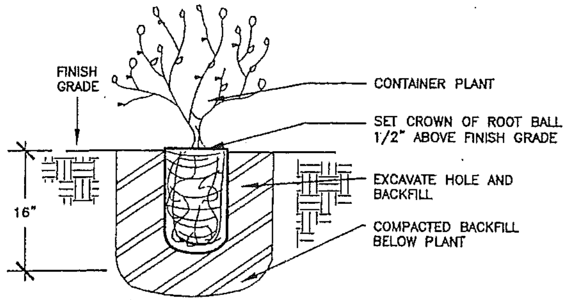
2. PROVIDE WEED FREE ZONE AROUND PLANTING SITE ACCORDING TO THE SPECIFICATIONS.

3. RODENT PROTECTION CAGES ARE NOT REQUIRED FOR PLANTS INSTALLED IN PLANTING ZONE B.

4. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

6 / D-8 CONTAINER PLANTING–ZONES B, C, AND D

Not To Scale

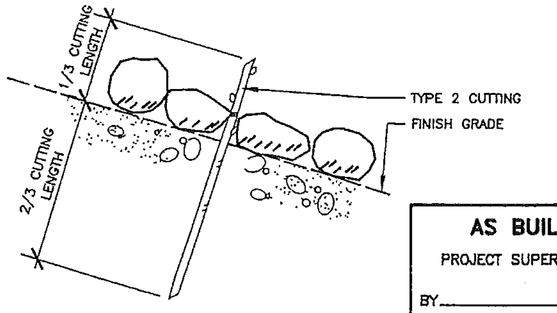

FINISH GRADE
CONTAINER PLANT
SET CROWN OF ROOT BALL 1/2" ABOVE FINISH GRADE
EXCAVATE HOLE AND BACKFILL
COMPACTED BACKFILL BELOW PLANT
16"

NOTES:

1. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

7 / D-8 CONTAINER PLANTING–ZONE A AND INSTREAM STRUCTURES

Not To Scale



NOTES:

1. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

8 / D-8 TYPE 2 CUTTING IN ROCK

Not To Scale

AS BUILT

PROJECT SUPERVISOR

BY__________

DATE__________

Plot Date: Thu 28 Feb 2002 – 8:59am
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_D-08-AB.dwg

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN C.J./K.C.
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

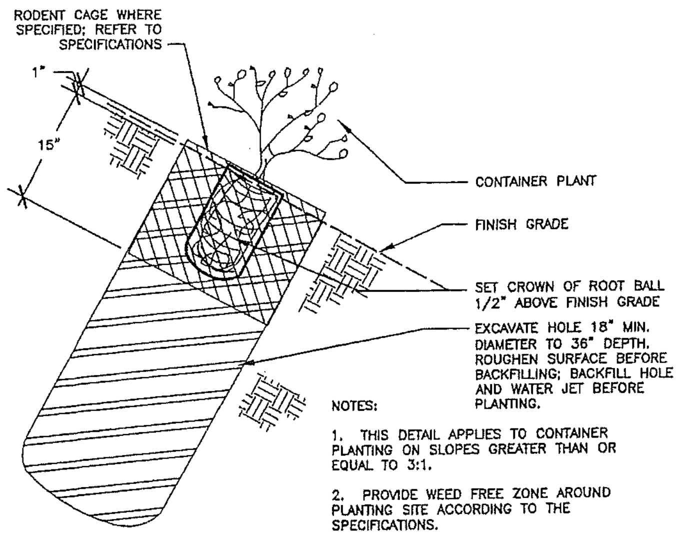
GUADALUPE CREEK RESTORATION PROJECT

PLANTING DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

SHEET AB
D-8
43 OF 52


RODENT CAGE WHERE SPECIFIED; REFER TO SPECIFICATIONS
1"
15"
CONTAINER PLANT
FINISH GRADE
SET CROWN OF ROOT BALL 1/2" ABOVE FINISH GRADE
EXCAVATE HOLE 18" MIN. DIAMETER TO 36" DEPTH. ROUGHEN SURFACE BEFORE BACKFILLING; BACKFILL HOLE AND WATER JET BEFORE PLANTING.

NOTES:

1. THIS DETAIL APPLIES TO CONTAINER PLANTING ON SLOPES GREATER THAN OR EQUAL TO 3:1.

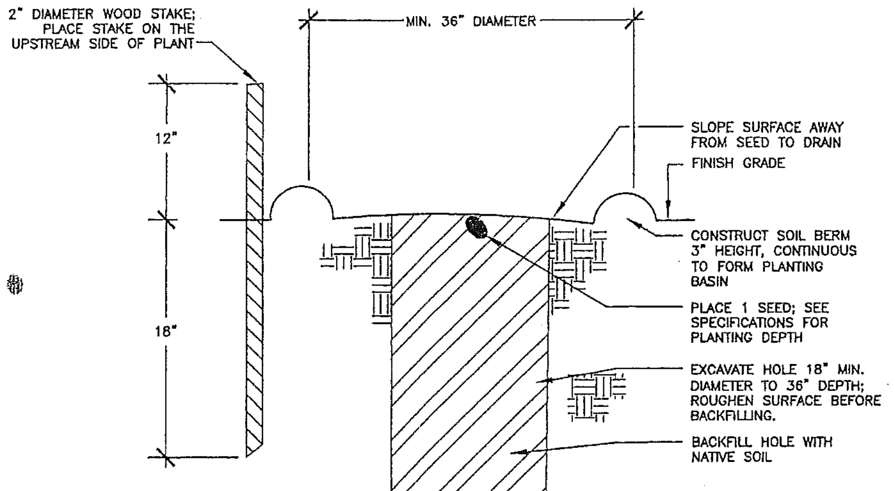
2. PROVIDE WEED FREE ZONE AROUND PLANTING SITE ACCORDING TO THE SPECIFICATIONS.

3. RODENT PROTECTION CAGES ARE NOT REQUIRED FOR PLANTS INSTALLED IN PLANTING ZONE B.

4. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1/D-9 CONTAINER PLANTING – ZONES B AND C

Not To Scale

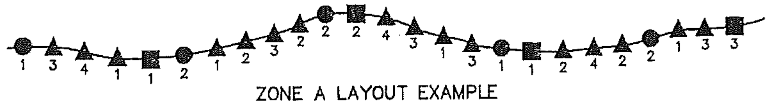

2" DIAMETER WOOD STAKE; PLACE STAKE ON THE UPSTREAM SIDE OF PLANT
MIN. 36" DIAMETER
12"
18"
SLOPE SURFACE AWAY FROM SEED TO DRAIN
FINISH GRADE
CONSTRUCT SOIL BERM 3" HEIGHT, CONTINUOUS TO FORM PLANTING BASIN
PLACE 1 SEED; SEE SPECIFICATIONS FOR PLANTING DEPTH
EXCAVATE HOLE 18" MIN. DIAMETER TO 36" DEPTH; ROUGHEN SURFACE BEFORE BACKFILLING.
BACKFILL HOLE WITH NATIVE SOIL

NOTES:

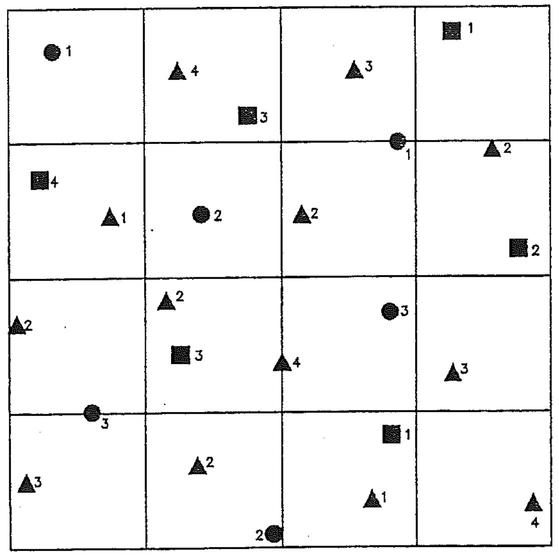
1. PAINT WOOD STAKES WHITE; USE TWO COATS OF PAINT.

2/D-9 LARGE SEED PLANTING

Not To Scale



ZONE A LAYOUT EXAMPLE
PLAN VIEW



ZONES B, C, AND D LAYOUT EXAMPLE
PLAN VIEW

NOTES:

1. ● = TREE
▲ = SMALL TREE
■ = SHRUB
● ▲ ■ (1 2 4) = DIFFERENT SPECIES PER PLANT TYPE

2. THE APPROXIMATE, MINIMUM, AND MAXIMUM SPACINGS BETWEEN PLANTING SITES FOR EACH ZONE ARE OUTLINED IN THE SPACING TABLE BELOW. THE APPROXIMATE SPACING BETWEEN PLANT TYPES IS ALSO OUTLINED BELOW. VARY PLANT TYPE AND SPECIES PLACEMENT TO ENSURE RANDOM LAYOUT.

3. PLANTING SITES WILL CONSIST OF EITHER CONTAINER PLANTS, CUTTINGS, OR LARGE SEEDS AS DEFINED ON SHEET P-15.

4. GRID IS SHOWN FOR GRAPHICAL PURPOSES TO ILLUSTRATE RANDOM LAYOUT.

5. SEE SHEET P-15 FOR TREE, SMALL TREE, AND SHRUB SPECIES.

ZONE	APPROXIMATE SPACING BETWEEN PLANTING SITES	MINIMUM SPACING BETWEEN PLANTING SITES	MAXIMUM SPACING BETWEEN PLANTING SITES	APPROXIMATE SPACING BETWEEN PLANT TYPES		
				TREES	SMALL TREES	SHRUBS
A*	2' O.C.	1' O.C.	3' O.C.	10' O.C.	2' O.C.	13' O.C.
A**	4' O.C.	3' O.C.	5' O.C.	20' O.C.	6' O.C.	27' O.C.
B	6' O.C.	4' O.C.	8' O.C.	19' O.C.	7' O.C.	12' O.C.
C	8' O.C.	6' O.C.	16' O.C.	10' O.C.	11' O.C.	16' O.C.
D	12' O.C.	8' O.C.	16' O.C.	16' O.C.	27' O.C.	24' O.C.

* ZONE A CORRESPONDS TO THE CHANNEL REALIGNMENT AREAS
** ZONE A CORRESPONDS TO NON-CHANNEL REALIGNMENT AREAS

3/D-9 PLANT LAYOUT

Not To Scale

NOTES:

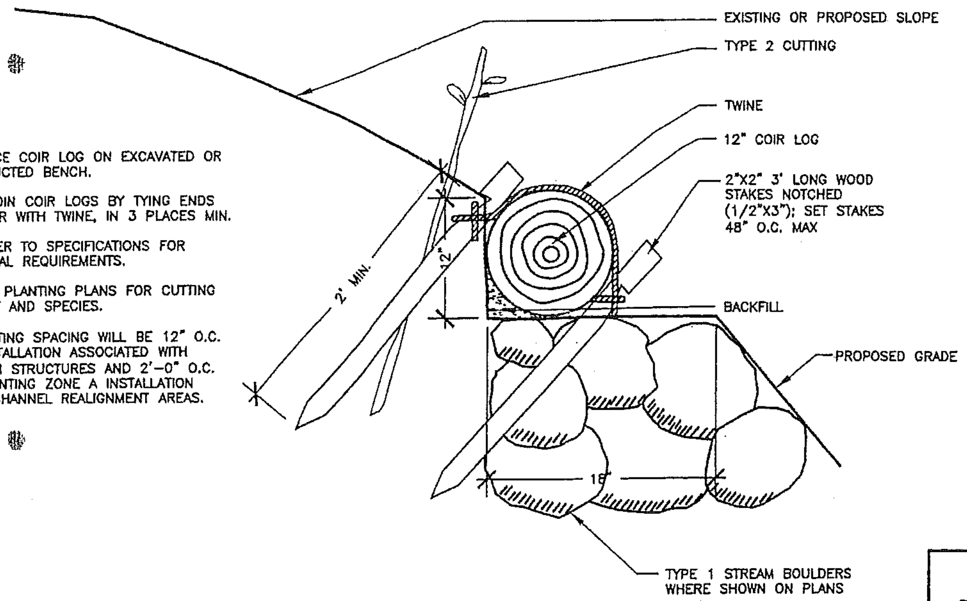
1. PLACE COIR LOG ON EXCAVATED OR CONSTRUCTED BENCH.

2. ADJOIN COIR LOGS BY TYING ENDS TOGETHER WITH TWINE, IN 3 PLACES MIN.

3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4. SEE PLANTING PLANS FOR CUTTING QUANTITY AND SPECIES.

5. CUTTING SPACING WILL BE 12" O.C. FOR INSTALLATION ASSOCIATED WITH INSTREAM STRUCTURES AND 2'-0" O.C. FOR PLANTING ZONE A INSTALLATION WITHIN CHANNEL REALIGNMENT AREAS.


EXISTING OR PROPOSED SLOPE
TYPE 2 CUTTING
TWINE
12" COIR LOG
2"X2" 3' LONG WOOD STAKES NOTCHED (1/2"X3"); SET STAKES 48" O.C. MAX
BACKFILL
PROPOSED GRADE
2' MIN.
2"
18"
TYPE 1 STREAM BOULDERS WHERE SHOWN ON PLANS

4/D-9 COIR LOG

Not To Scale

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE__________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN C.J./K.C.
CHECKED E.W./J.Z.

Santa Clara Valley Water District
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevick ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

PLANTING DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN
SHEET AB
D-9
44 OF 52

Plot Date: Thu 28 Feb 2002 - 9:02am
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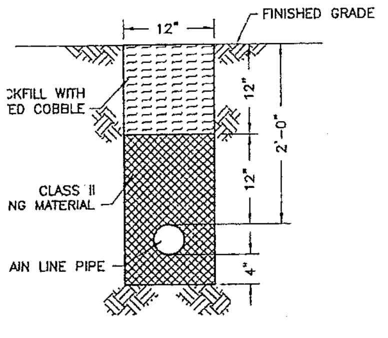
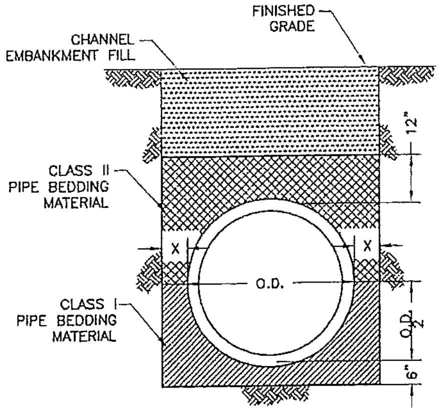


SECTION

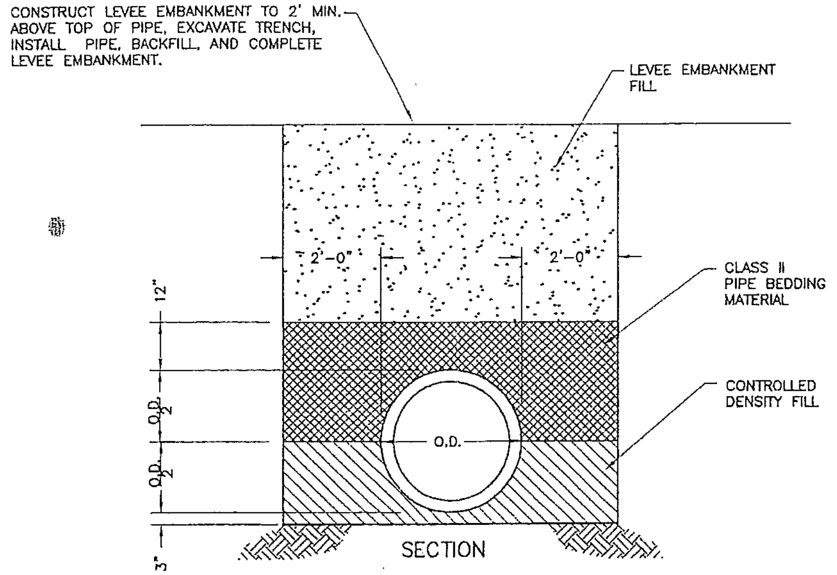
(1 / D-10) MAIN LINE PIPE BEDDING UNDER MERIDIAN AVENUE BRIDGE
Scale: 1" = 1' - 0'



LIMITS OF X	
MINIMUM	MAXIMUM
6"	6" + $\frac{O.D.}{4}$

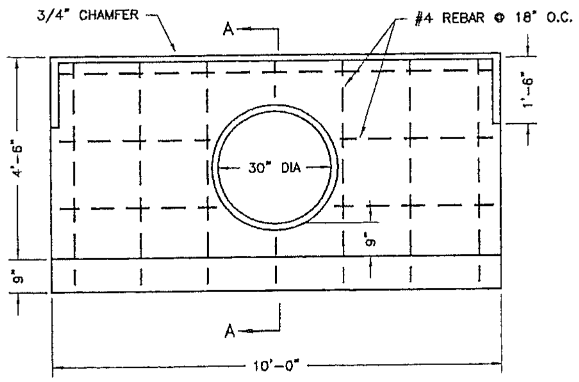
SECTION

(2 / D-10) PIPE BEDDING
Scale: 1/2" = 1' - 0'

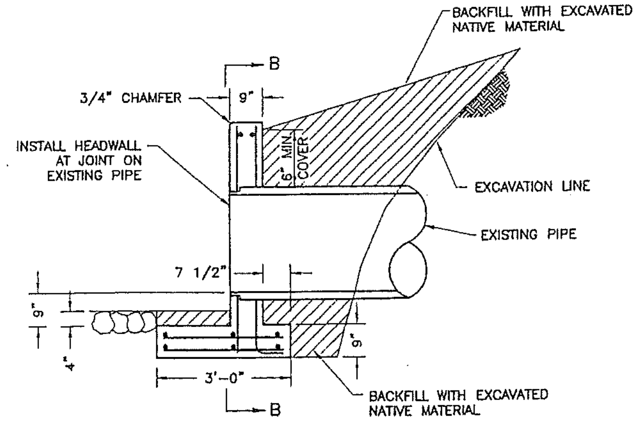

CONSTRUCT LEVEE EMBANKMENT TO 2' MIN. ABOVE TOP OF PIPE, EXCAVATE TRENCH, INSTALL PIPE, BACKFILL, AND COMPLETE LEVEE EMBANKMENT.
LEVEE EMBANKMENT FILL
2'-0"
2'-0"
12"
CLASS II PIPE BEDDING MATERIAL
CONTROLLED DENSITY FILL
O.D.
O.D./2
O.D./2
3"

SECTION

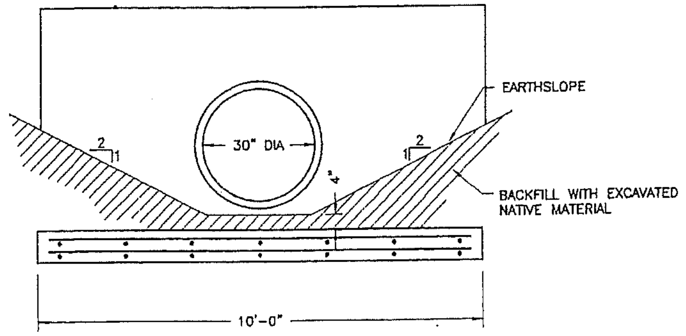
(3 / D-10) PIPE BEDDING IN LEVEE
Scale: 1/2" = 1' - 0'



FRONT ELEVATION


BACKFILL WITH EXCAVATED NATIVE MATERIAL
B
3/4" CHAMFER
9"
INSTALL HEADWALL AT JOINT ON EXISTING PIPE
6" MIN COVER
EXCAVATION LINE
EXISTING PIPE
7 1/2"
9"
4"
9"
3'-0"
B
BACKFILL WITH EXCAVATED NATIVE MATERIAL

SECTION A–A

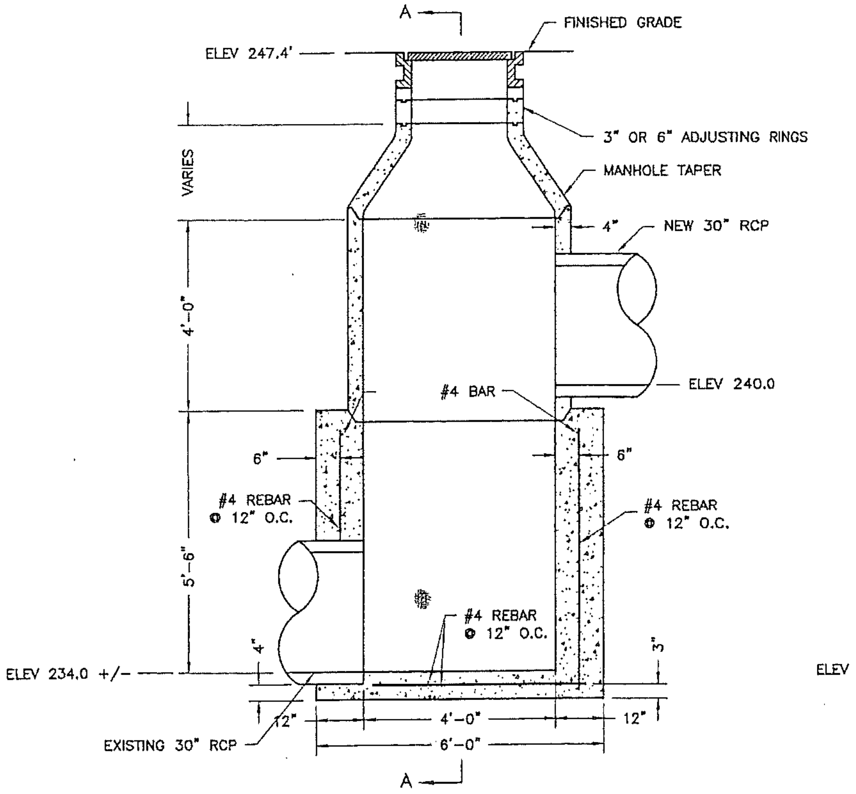


SECTION B–B

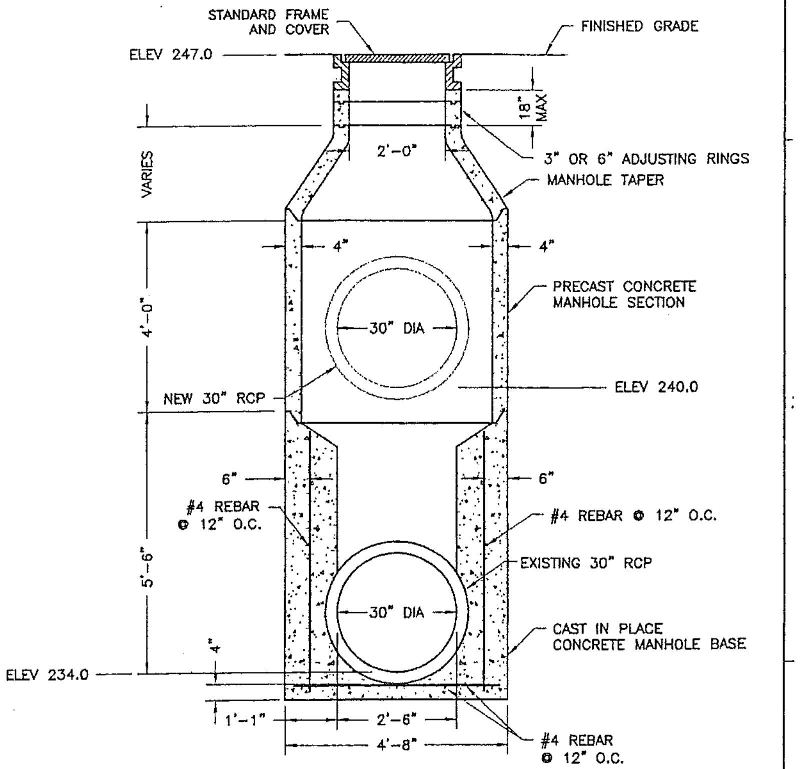
NOTES:

1. INSTALL SALVAGED FLAPGATE WHERE SHOWN ON GRADING PLANS.
2. CLEAR COVER FOR REINFORCEMENT STEEL SHALL BE 2" UNLESS OTHERWISE SHOWN.
3. MINIMUM BEND RADIUS FOR REINFORCEMENT STEEL SHALL BE 2" UNLESS OTHERWISE SHOWN.
4. MINIMUM LAP FOR REINFORCEMENT STEEL SPLICES SHALL BE 16" FOR #4 BAR AND 24" FOR FOR #6 BAR.
5. CONSTRUCT TYPE 1 STREAM BOULDER APRON AND TRANSITION TO DRAINAGE SWALE DOWNSTREAM OF HEADWALL. SEE (4 / D-5)

(4 / D-10) REINFORCED CONCRETE HEADWALL
Scale: 1/2" = 1' - 0'



SIDE VIEW



SECTION A–A

(5 / D-10) MANHOLE FOR 30" RCP
Scale: 1/2" = 1' - 0'

AS BUILT

PROJECT SUPERVISOR

BY__________

DATE__________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	SS/MF
DRAWN	HVK
CHECKED	EW

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

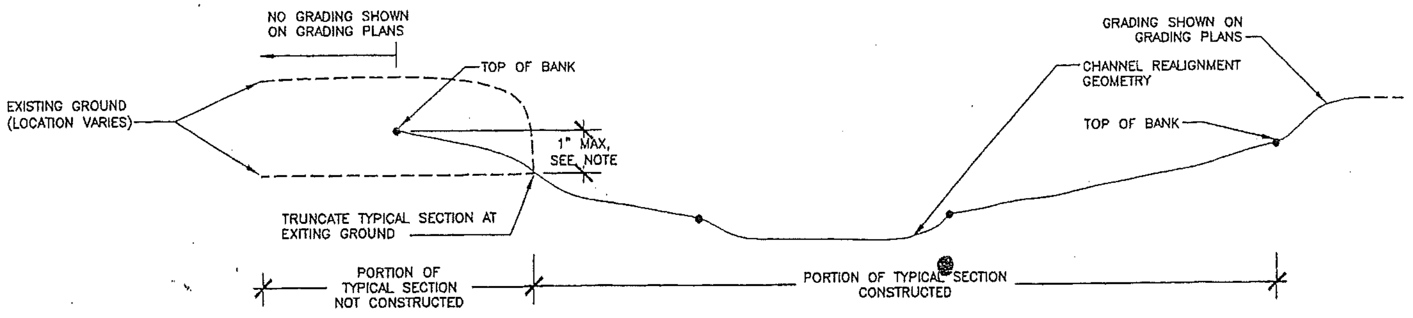
GUADALUPE CREEK
RESTORATION PROJECT

INFRASTRUCTURE DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
SCALE AS SHOWN
SHEET AB
D-10
45 OF 52

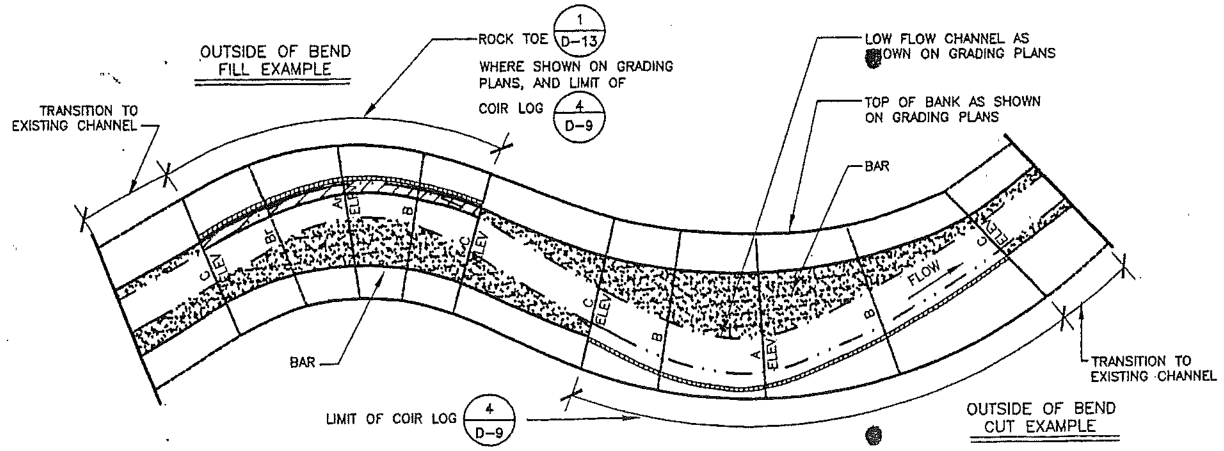
DWG FILE NAME: G:\dwgs\P\301525\As-Builts\Sht_D-10-AB.dwg


NO GRADING SHOWN ON GRADING PLANS
TOP OF BANK
EXISTING GROUND (LOCATION VARIES)
1" MAX, SEE NOTE
TRUNCATE TYPICAL SECTION AT EXITING GROUND
GRADING SHOWN ON GRADING PLANS
CHANNEL REALIGNMENT GEOMETRY
TOP OF BANK
PORTION OF TYPICAL SECTION NOT CONSTRUCTED
PORTION OF TYPICAL SECTION CONSTRUCTED

NOTE:
WHERE GRADING IS NOT SHOWN OUTSIDE OF TOP OF BANK AND TYPICAL SECTIONS INTERSECT EXISTING GROUND, TRUNCATE SECTIONS AT INTERSECTION. MAXIMUM DIFFERENCE BETWEEN THE TOP OF BANK OF THE TYPICAL SECTION AND THE POINT OF INTERSECTION IS 1 FOOT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

1 / D-11 TRUNCATE TYPICAL SECTION

NTS


OUTSIDE OF BEND FILL EXAMPLE
ROCK TOE 1 / D-13
WHERE SHOWN ON GRADING PLANS, AND LIMIT OF
COIR LOG 4 / D-9
LOW FLOW CHANNEL AS SHOWN ON GRADING PLANS
TOP OF BANK AS SHOWN ON GRADING PLANS
BAR
TRANSITION TO EXISTING CHANNEL
C
ELEV
Br
B
A
FLOW
BAR
LIMIT OF COIR LOG 4 / D-9
TRANSITION TO EXISTING CHANNEL
OUTSIDE OF BEND CUT EXAMPLE

PLAN VIEW NOTES:

1. SECTIONS Ar AND Br ARE MIRROR IMAGES OF SECTIONS A AND B, RESPECTIVELY.
2. BAR DIMENSIONS VARY WITH ANGULAR CHANGE AND RADIUS OF BEND.
3. ALL SECTIONS LOOK UPSTREAM.
4. B SECTIONS ARE TRANSITION SECTIONS BETWEEN A AND C SECTIONS. THEY ARE PROVIDED HERE FOR INFORMATIONAL PURPOSES, BUT ARE NOT SHOWN ON THE GRADING PLANS.
5. ELEVATIONS SHOWN ON THE SECTION LINES IN THE GRADING PLANS REFER TO THE CHANNEL BED ELEVATION. SLOPE BETWEEN SECTIONS TO BE UNIFORM.

2 / D-11 CHANNEL REALIGNMENT- TYPICAL SECTION LOCATIONS

NTS

SECTION NOTES

NOTE 1: WIDTH VARIES TO MAKE DISTANCE BETWEEN TOP OF BANK POINTS MATCH GRADING PLAN SHEETS.

NOTE 2: WHERE SUITABLE MATERIALS EXIST THAT GENERALLY CONFORM TO THE STREAMBED FILL MATERIAL SPECIFICATION, THE ENGINEER MAY DETERMINE THAT EXCAVATION OF EXISTING MATERIALS IS NOT REQUIRED.

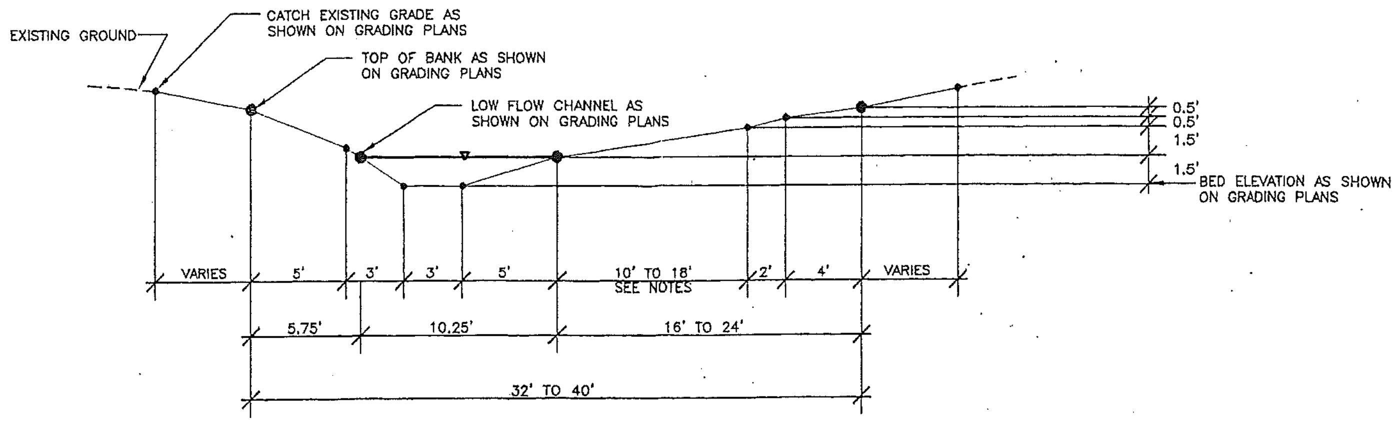
NOTE 3: ALL CHANNEL EMBANKMENT FILL WILL BE PLACED IN HORIZONTAL LIFTS. LIFTS MUST BE KEYED INTO EXISTING GROUND.

NOTE 4: ROCK TOE AND COIR LOG END AT SECTION C AS SHOWN IN PLAN VIEW ON SHEET D-11. CONSTRUCT SMOOTH TRANSITION BETWEEN CONFIGURATIONS SHOWN IN SECTIONS A, B, AND C.

NOTE 5: WHERE THE CHANNEL BANK IS CONSTRUCTED IN CUT AND EXPOSES UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, THE UNSUITABLE MATERIAL WILL BE REPLACED WITH CHANNEL EMBANKMENT FILL AND A ROCK TOE WILL BE CONSTRUCTED.

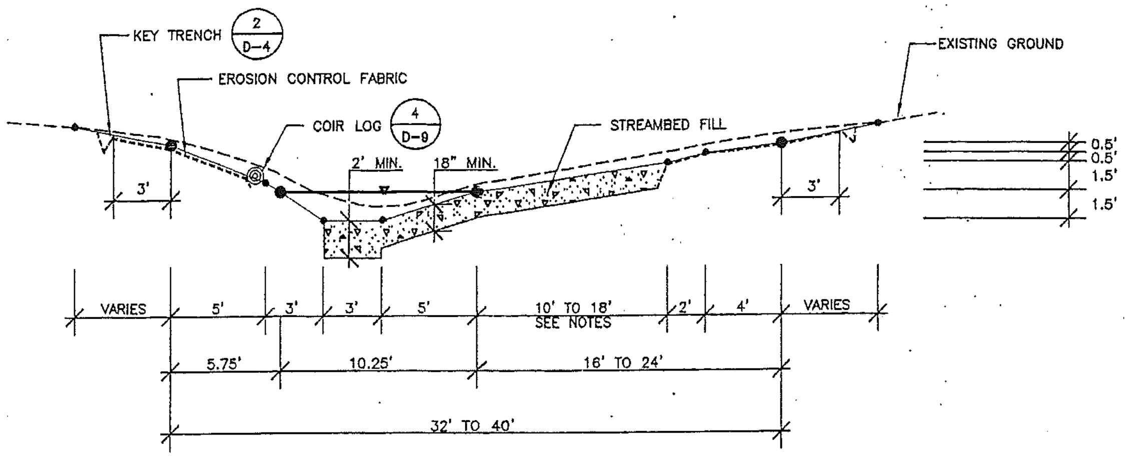
NOTE 6: EXISTING BANK TO BE EXCAVATED AS STEEPLY AS POSSIBLE FOR INSTALLATION OF STREAMBED FILL.

NOTE 7: COARSE STREAMBED FILL WILL BE USED BETWEEN ADJACENT SECTION C LOCATIONS. STREAMBED FILL WILL BE USED BETWEEN SECTION A AND SECTION C LOCATIONS (UPSTREAM AND DOWNSTREAM OF SECTION A).


EXISTING GROUND
CATCH EXISTING GRADE AS SHOWN ON GRADING PLANS
TOP OF BANK AS SHOWN ON GRADING PLANS
LOW FLOW CHANNEL AS SHOWN ON GRADING PLANS
0.5'
0.5'
1.5'
1.5'
BED ELEVATION AS SHOWN ON GRADING PLANS
VARIES
5'
3'
3'
5'
10' TO 18' SEE NOTES
2'
4'
VARIES
5.75'
10.25'
16' TO 24'
32' TO 40'

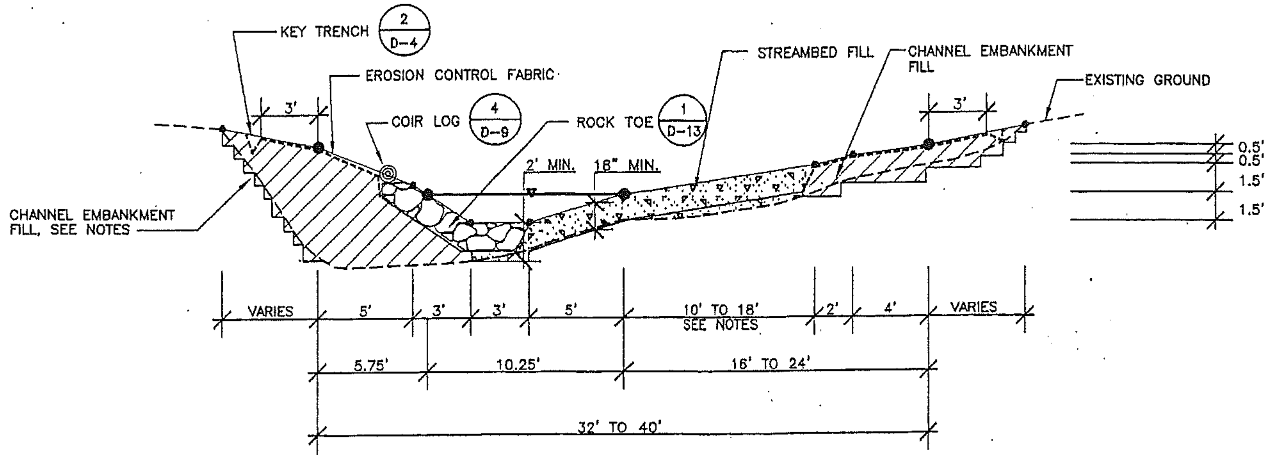
SECTION A - GEOMETRY (TYPICAL)

SCALE 1"=5'



SECTION A - MATERIAL, CUT EXAMPLE

SCALE 1"=5'



SECTION A - MATERIAL, FILL EXAMPLE

SCALE 1"=5'

REV	DESCRIPTION	DATE	APPR

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

EDWARD E. WALLACE
32301
EXP. 12/31/04
CIVIL

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN K.C./C.J.
CHECKED E.W./J.Z.

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

4/16/01
DATE

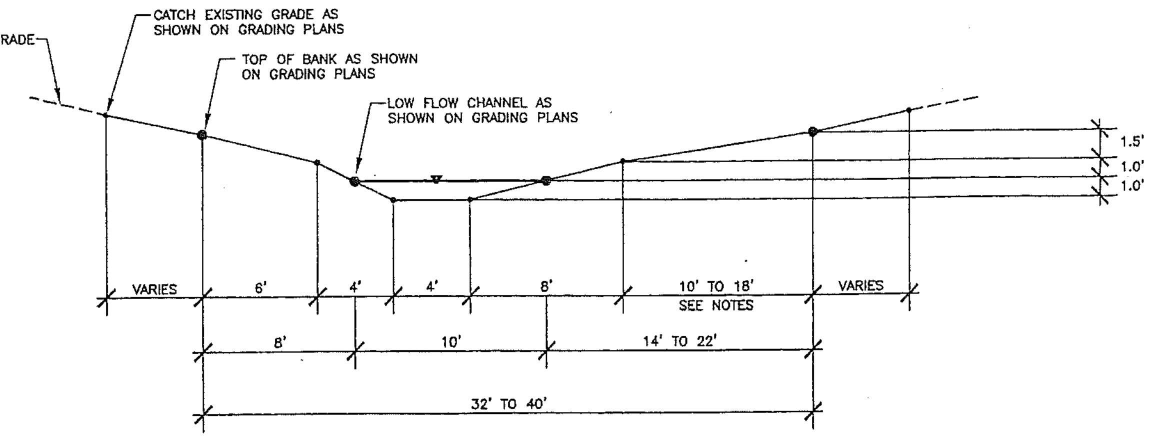
GUADALUPE CREEK RESTORATION PROJECT

BANK PROTECTION AND CHANNEL REALIGNMENT DETAILS

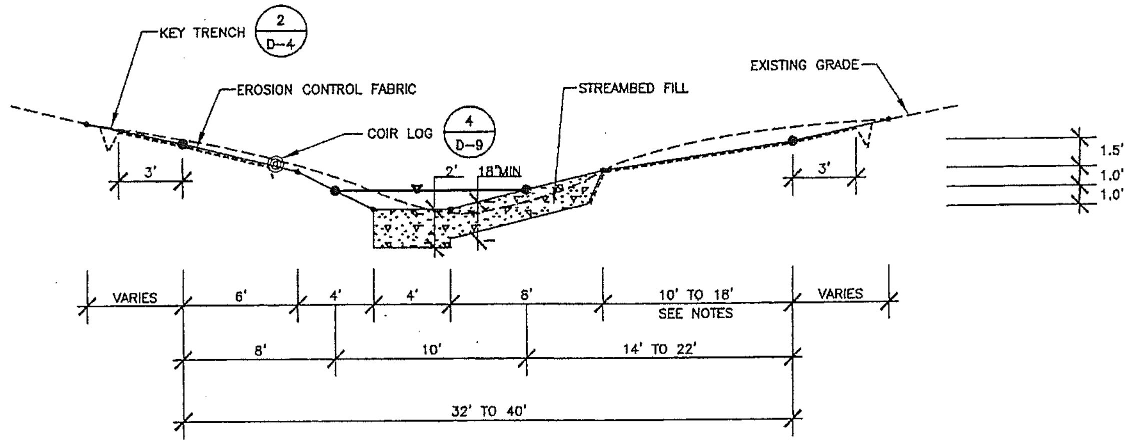
VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN

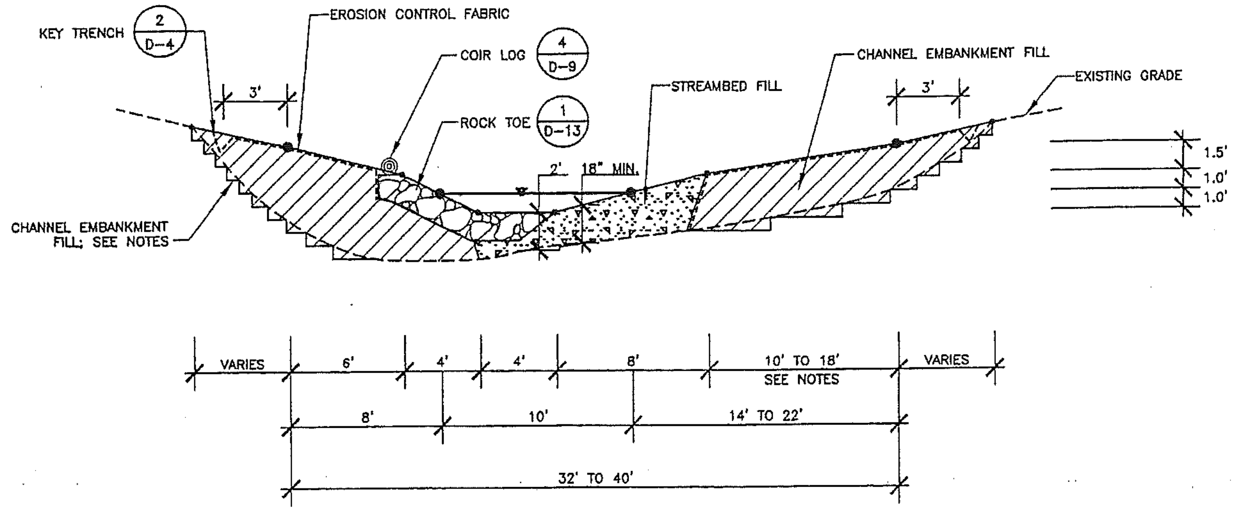
SHEET
D-11
46 OF 52


EXISTING GRADE
CATCH EXISTING GRADE AS SHOWN ON GRADING PLANS
TOP OF BANK AS SHOWN ON GRADING PLANS
LOW FLOW CHANNEL AS SHOWN ON GRADING PLANS
1.5'
1.0'
1.0'
VARIES
6'
4'
4'
8'
10' TO 18' SEE NOTES
VARIES
8'
10'
14' TO 22'
32' TO 40'

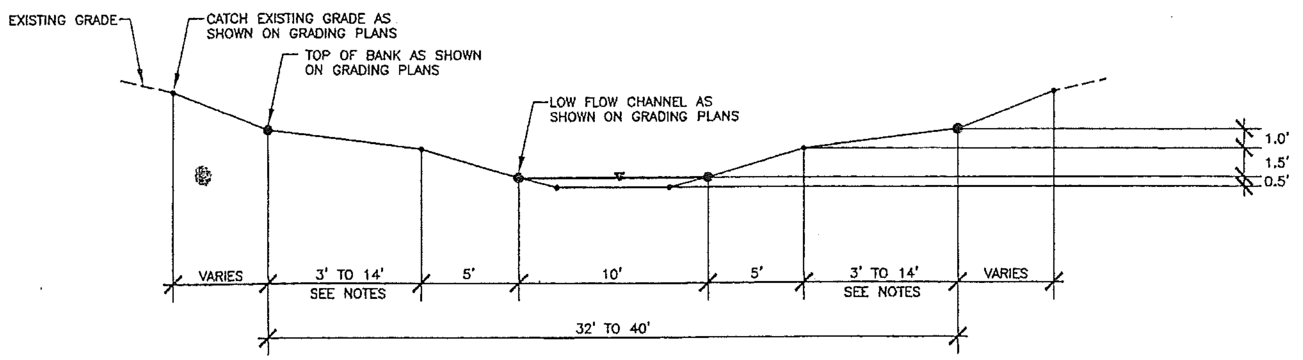
SECTION B – GEOMETRY (TYPICAL)
Looking Upstream 1" = 5'



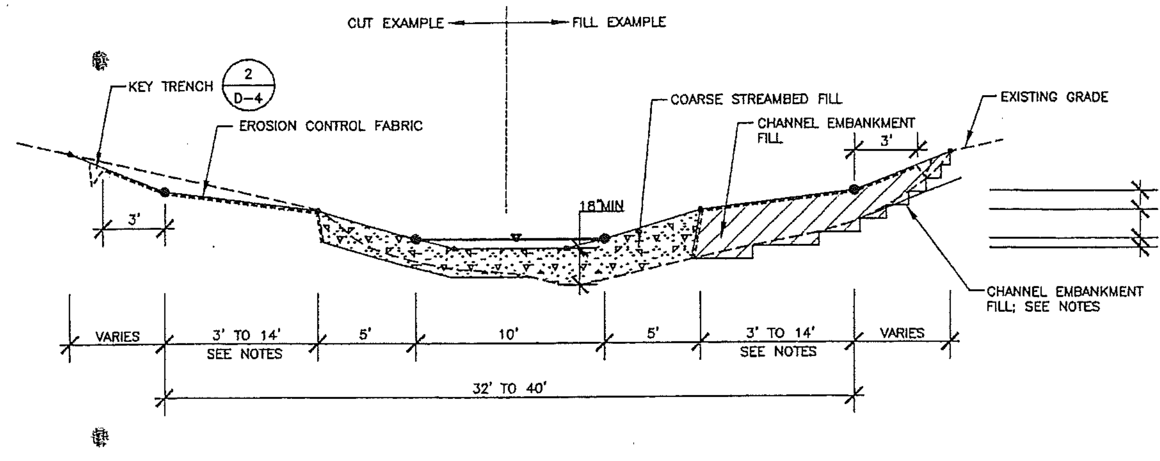
SECTION B – MATERIAL CUT EXAMPLE
Looking Upstream 1" = 5'



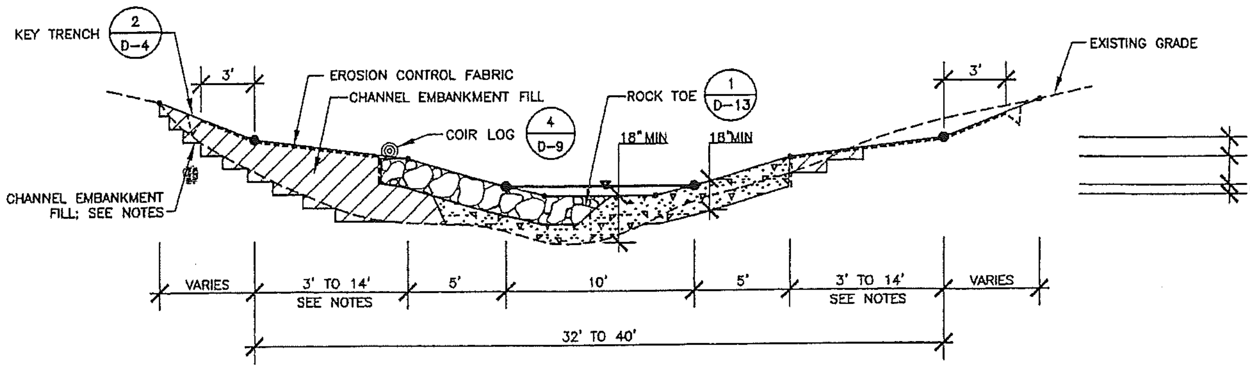
SECTION B – MATERIAL FILL EXAMPLE
Looking Upstream 1" = 5'


EXISTING GRADE
CATCH EXISTING GRADE AS SHOWN ON GRADING PLANS
TOP OF BANK AS SHOWN ON GRADING PLANS
LOW FLOW CHANNEL AS SHOWN ON GRADING PLANS
1.0'
1.5'
0.5'
VARIES
3' TO 14' SEE NOTES
5'
10'
5'
3' TO 14' SEE NOTES
VARIES
32' TO 40'

SECTION C – GEOMETRY (TYPICAL)
Looking Upstream 1" = 5'



SECTION C – MATERIAL CUT AND FILL EXAMPLE
Looking Upstream 1" = 5'



SECTION C – END OF ROCK TOE
Looking Upstream 1" = 5'

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE __________

NOTE: SEE SECTION NOTES SHEET D-11.

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

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northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE	04/16/01
DESIGN	A.R./E.W.
DRAWN	C.J./K.C.
CHECKED	E.W./J.Z.

Santa Clara Valley Water District
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/18/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

CHANNEL REALIGNMENT AND LEVEE SECTION DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN
SHEET AB
D-12
47 OF 52

Plot Date: Sun 17 Feb 2002 - T0:56pm
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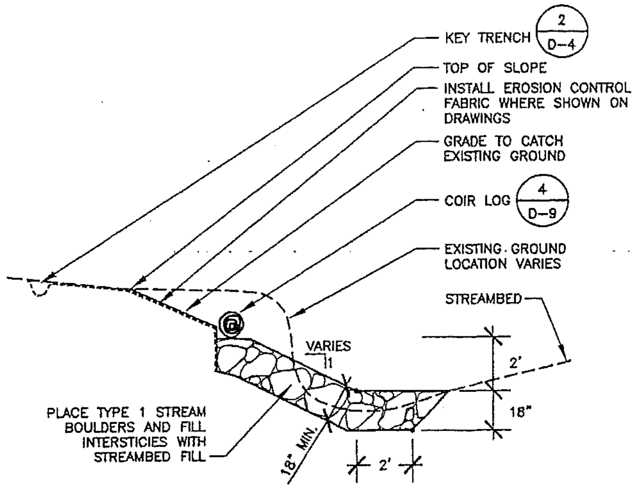


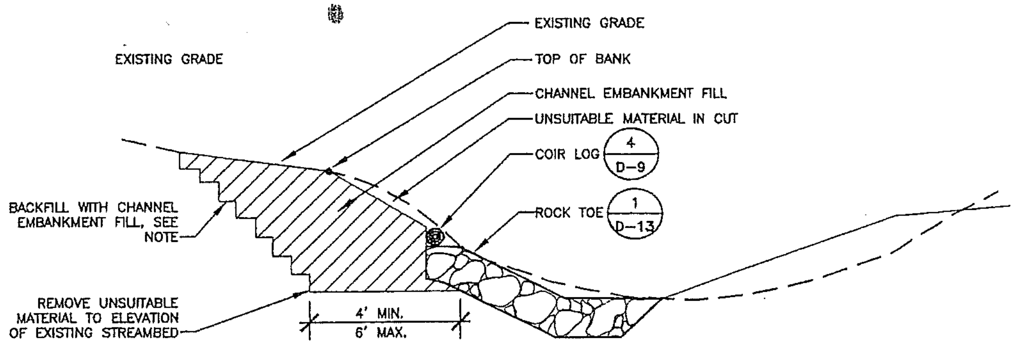
KEY TRENCH 2/D-4
TOP OF SLOPE
INSTALL EROSION CONTROL FABRIC WHERE SHOWN ON DRAWINGS
GRADE TO CATCH EXISTING GROUND
COIR LOG 4/D-9
EXISTING GROUND LOCATION VARIES
STREAMBED
VARIES
1
2'
18"
PLACE TYPE 1 STREAM BOULDERS AND FILL INTERSTICIES WITH STREAMBED FILL
18" MIN.
2'

NOTES:

1. ROCK TOE SLOPE VARIES TO MATCH SLOPE OF CHANNEL REALIGNMENT TYPICAL SECTION OR BANK PROTECTION SECTION.

2. WHERE ROCK TOE IS TO BE CONSTRUCTED ON FILL, FILL WILL BE PLACED AND COMPACTED TO THE APPROXIMATE BANK PROFILE, THEN EXCAVATED FOR INSTALLATION OF THE ROCK TOE.

1/D-13 ROCK TOE
Section NTS

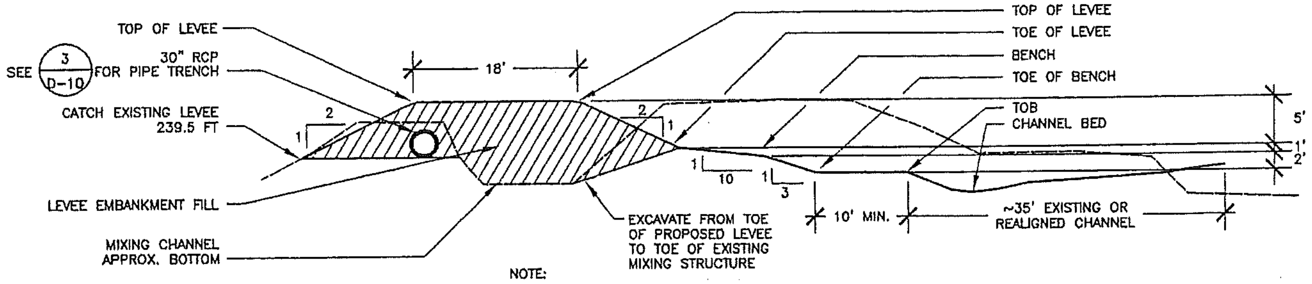


EXISTING GRADE
EXISTING GRADE
TOP OF BANK
CHANNEL EMBANKMENT FILL
UNSUITABLE MATERIAL IN CUT
COIR LOG 4/D-9
ROCK TOE 1/D-13
BACKFILL WITH CHANNEL EMBANKMENT FILL, SEE NOTE
REMOVE UNSUITABLE MATERIAL TO ELEVATION OF EXISTING STREAMBED
4' MIN.
6' MAX.

NOTE:

1. CHANNEL AMBANKMENT FILL WILL BE PLACED IN HORIZONTAL LIFTS. LIFTS MUST BE KEYED INTO EXISTING GROUND.

2/D-13 UNSUITABLE MATERIAL REPLACEMENT
NTS

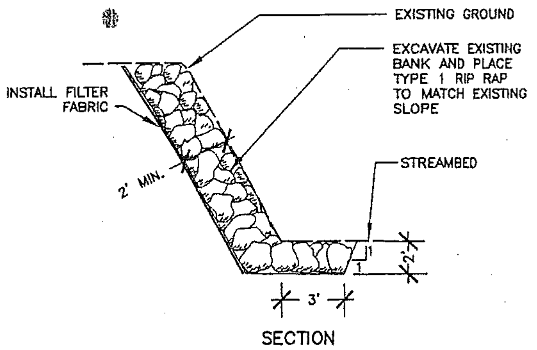


TOP OF LEVEE
SEE 3/D-10 FOR PIPE TRENCH
30" RCP
CATCH EXISTING LEVEE 239.5 FT
LEVEE EMBANKMENT FILL
MIXING CHANNEL APPROX. BOTTOM
18'
2
1
2
1
1
10
1
3
TOP OF LEVEE
TOE OF LEVEE
BENCH
TOE OF BENCH
TOB
CHANNEL BED
5'
1'
2'
EXCAVATE FROM TOE OF PROPOSED LEVEE TO TOE OF EXISTING MIXING STRUCTURE
10' MIN.
~35' EXISTING OR REALIGNED CHANNEL

NOTE:

1. COMPACT LEVEE FILL TO 90% RELATIVE COMPACTION.

3/D-13 TYPICAL LEVEE SECTION
Not To Scale



EXISTING GROUND
EXCAVATE EXISTING BANK AND PLACE TYPE 1 RIP RAP TO MATCH EXISTING SLOPE
INSTALL FILTER FABRIC
STREAMBED
2' MIN.
1
1
2'
3'
SECTION

4/D-13 ROCK SLOPE PROTECTION
Not To Scale

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE __________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN STAFF
CHECKED E.W./J.Z.

Santa Clara Valley Water District
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT
ABBREV AND LEGEND CHANNEL REALIGNMENT AND LEVEE SECTION DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE AS SHOWN
SHEET AB
D-13
48 OF 52

Plot Date: Thu 28 Feb 2002 - 9:54am
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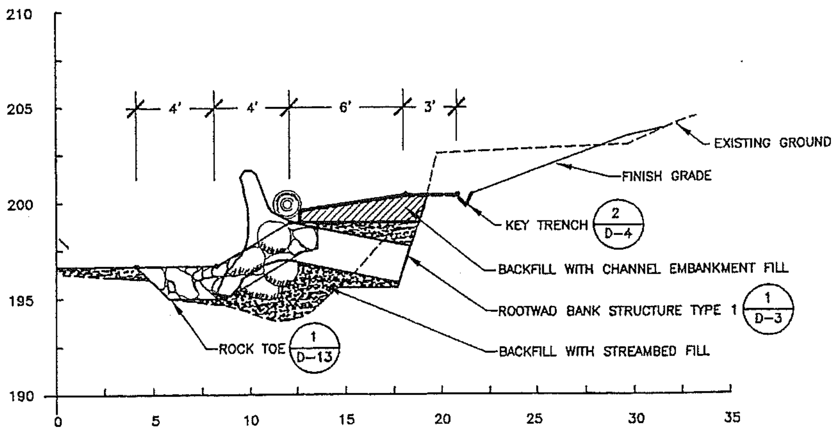
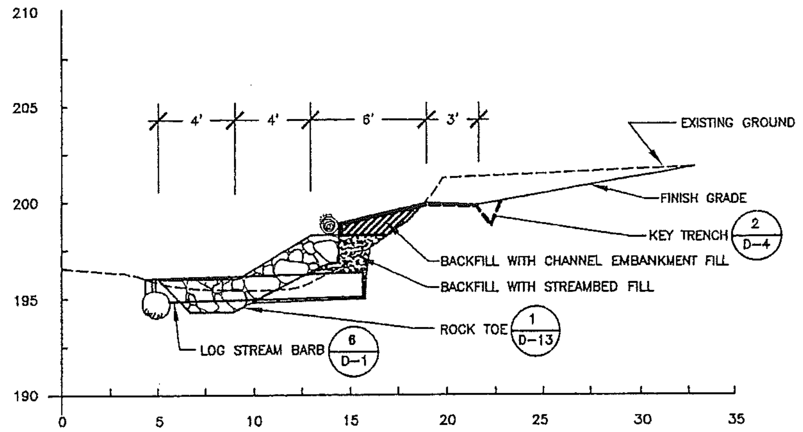
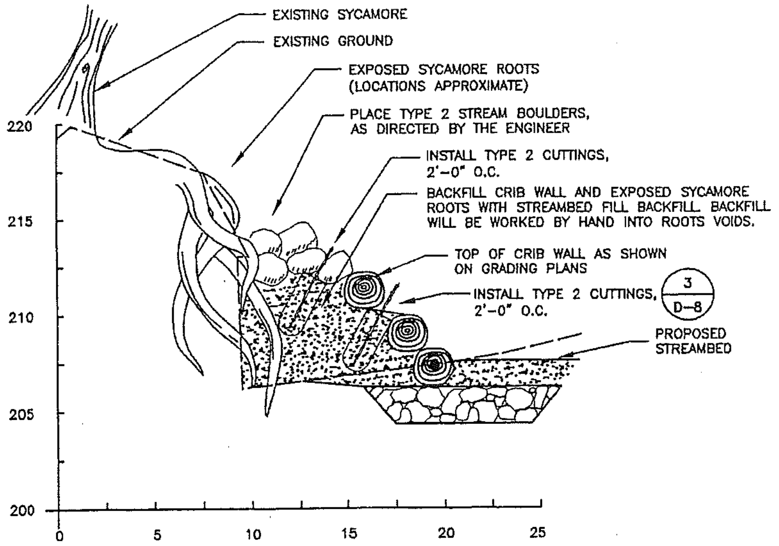

210
205
200
195
190
0
5
10
15
20
25
30
35
4'
4'
6'
3'
EXISTING GROUND
FINISH GRADE
KEY TRENCH 2 D-4
BACKFILL WITH CHANNEL EMBANKMENT FILL
ROOTWAD BANK STRUCTURE TYPE 1 1 D-3
BACKFILL WITH STREAMBED FILL
ROCK TOE 1 D-13

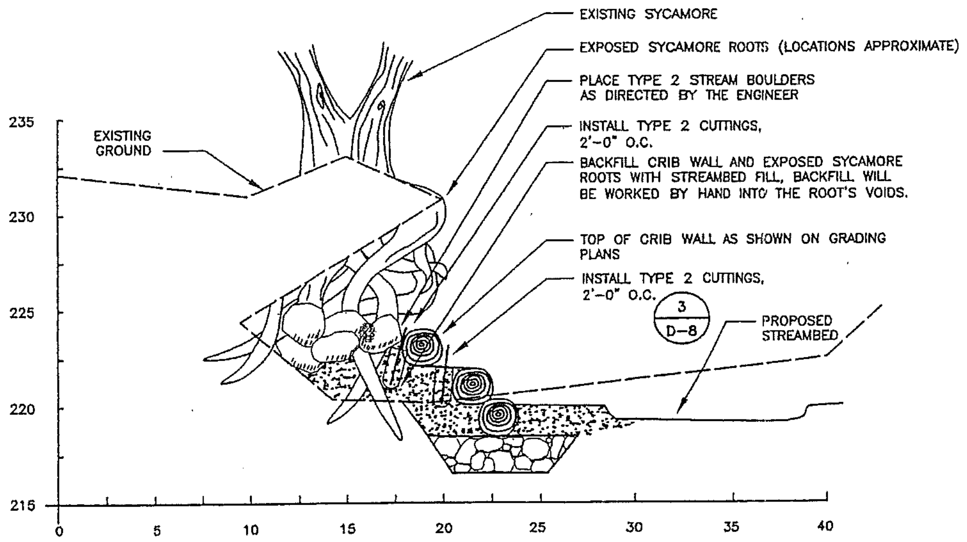
1 D-14 BANK PROTECTION SITE A
SECTION 1"=5'



2 D-14 BANK PROTECTION SITE A
SECTION 1"=5'


220
215
210
205
200
0
5
10
15
20
25
EXISTING SYCAMORE
EXISTING GROUND
EXPOSED SYCAMORE ROOTS (LOCATIONS APPROXIMATE)
PLACE TYPE 2 STREAM BOULDERS, AS DIRECTED BY THE ENGINEER
INSTALL TYPE 2 CUTTINGS, 2'-0" O.C.
BACKFILL CRIB WALL AND EXPOSED SYCAMORE ROOTS WITH STREAMBED FILL. BACKFILL WILL BE WORKED BY HAND INTO ROOTS VOIDS.
TOP OF CRIB WALL AS SHOWN ON GRADING PLANS
INSTALL TYPE 2 CUTTINGS, 2'-0" O.C. 3 D-8
PROPOSED STREAMBED

3 D-14 CRIB WALL CONSTRUCTION AT SYCAMORE
1"=5' BANK PROTECTION SITE B


235
230
225
220
215
0
5
10
15
20
25
30
35
40
EXISTING GROUND
EXISTING SYCAMORE
EXPOSED SYCAMORE ROOTS (LOCATIONS APPROXIMATE)
PLACE TYPE 2 STREAM BOULDERS AS DIRECTED BY THE ENGINEER
INSTALL TYPE 2 CUTTINGS, 2'-0" O.C.
BACKFILL CRIB WALL AND EXPOSED SYCAMORE ROOTS WITH STREAMBED FILL. BACKFILL WILL BE WORKED BY HAND INTO THE ROOT'S VOIDS.
TOP OF CRIB WALL AS SHOWN ON GRADING PLANS
INSTALL TYPE 2 CUTTINGS, 2'-0" O.C. 3 D-8
PROPOSED STREAMBED

4 D-14 CRIB WALL CONSTRUCTION AT SYCAMORE
1"=5' BANK PROTECTION SITE D

AS BUILT
PROJECT SUPERVISOR
BY__________
DATE __________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

Jones & Stokes
2880 Zanker Rd., San Jose, CA 95134

nhc
northwest hydraulic consultants, inc.
3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN A.R./E.W.
DRAWN K.C./Ae.M.
CHECKED E.W./J.Z.

Santa Clara Valley Water District
ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevich ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT
ABBREV AND LEGEND CHANNEL REALIGNMENT AND LEVEE SECTION DETAILS

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
AS SHOWN
SHEET AB
D-14
49 OF 52

Plot Date: Thu, 28 Feb 2002 - 9:56am
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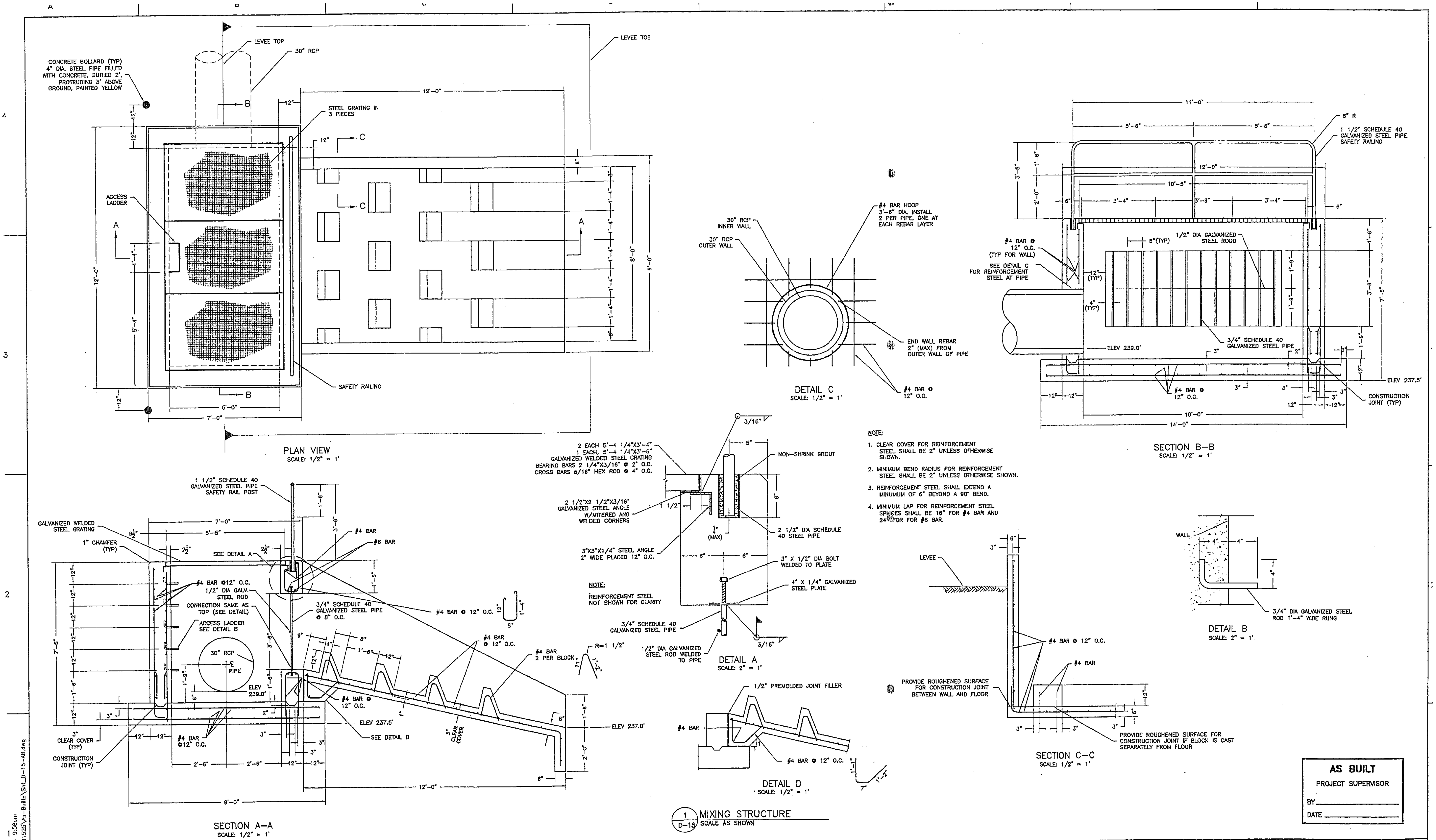
LEVEE TOP
30" RCP
LEVEE TOE
CONCRETE BOLLARD (TYP) 4" DIA. STEEL PIPE FILLED WITH CONCRETE, BURIED 2', PROTRUDING 3' ABOVE GROUND, PAINTED YELLOW
STEEL GRATING IN 3 PIECES
ACCESS LADDER
SAFETY RAILING
12'-0"
7'-0"
5'-0"
8'-0"
9'-0"
PLAN VIEW
SCALE: 1/2" = 1'
1 1/2" SCHEDULE 40 GALVANIZED STEEL PIPE SAFETY RAIL POST
GALVANIZED WELDED STEEL GRATING
1" CHAMFER (TYP)
SEE DETAIL A
#4 BAR @12" O.C.
1/2" DIA GALV. STEEL ROD
CONNECTION SAME AS TOP (SEE DETAIL)
ACCESS LADDER SEE DETAIL B
30" RCP
PIPE
ELEV 239.0'
3/4" SCHEDULE 40 GALVANIZED STEEL PIPE @ 8" O.C.
#4 BAR
#6 BAR
#4 BAR @ 12" O.C.
#4 BAR 2 PER BLOCK
R=1 1/2"
ELEV 237.5'
ELEV 237.0'
SEE DETAIL D
3" CLEAR COVER
3" CLEAR COVER (TYP)
CONSTRUCTION JOINT (TYP)
SECTION A–A
SCALE: 1/2" = 1'
2 EACH 5'-4 1/4"X3'-4" 1 EACH, 5'-4 1/4"X3'-6" GALVANIZED WELDED STEEL GRATING BEARING BARS 2 1/4"X3/16" @ 2" O.C. CROSS BARS 5/16" HEX ROD @ 4" O.C.
2 1/2"X2 1/2"X3/16" GALVANIZED STEEL ANGLE W/MITERED AND WELDED CORNERS
3"X3"X1/4" STEEL ANGLE 2" WIDE PLACED 12" O.C.
NON-SHRINK GROUT
2 1/2" DIA SCHEDULE 40 STEEL PIPE
3" X 1/2" DIA BOLT WELDED TO PLATE
4" X 1/4" GALVANIZED STEEL PLATE
3/4" SCHEDULE 40 GALVANIZED STEEL PIPE
1/2" DIA GALVANIZED STEEL ROD WELDED TO PIPE
3/16"
NOTE: REINFORCEMENT STEEL NOT SHOWN FOR CLARITY
DETAIL A
SCALE: 2" = 1'
30" RCP INNER WALL
30" RCP OUTER WALL
#4 BAR HOOP 3'-6" DIA, INSTALL 2 PER PIPE, ONE AT EACH REBAR LAYER
END WALL REBAR 2" (MAX) FROM OUTER WALL OF PIPE
#4 BAR @ 12" O.C.
DETAIL C
SCALE: 1/2" = 1'
1/2" PREMOLDED JOINT FILLER
#4 BAR
#4 BAR @ 12" O.C.
DETAIL D
SCALE: 1/2" = 1'
6" R
1 1/2" SCHEDULE 40 GALVANIZED STEEL PIPE SAFETY RAILING
11'-0"
5'-6"
12'-0"
10'-5"
#4 BAR @ 12" O.C. (TYP FOR WALL)
SEE DETAIL C FOR REINFORCEMENT STEEL AT PIPE
1/2" DIA GALVANIZED STEEL ROOD
8"(TYP)
12" (TYP)
4" (TYP)
3/4" SCHEDULE 40 GALVANIZED STEEL PIPE
ELEV 239.0'
ELEV 237.5'
#4 BAR @ 12" O.C.
CONSTRUCTION JOINT (TYP)
10'-0"
14'-0"
SECTION B–B
SCALE: 1/2" = 1'
LEVEE
#4 BAR @ 12" O.C.
#4 BAR
PROVIDE ROUGHENED SURFACE FOR CONSTRUCTION JOINT BETWEEN WALL AND FLOOR
PROVIDE ROUGHENED SURFACE FOR CONSTRUCTION JOINT IF BLOCK IS CAST SEPARATELY FROM FLOOR
SECTION C–C
SCALE: 1/2" = 1'
WALL
3/4" DIA GALVANIZED STEEL ROD 1'-4" WIDE RUNG
DETAIL B
SCALE: 2" = 1'

NOTE:

1. CLEAR COVER FOR REINFORCEMENT STEEL SHALL BE 2" UNLESS OTHERWISE SHOWN.
2. MINIMUM BEND RADIUS FOR REINFORCEMENT STEEL SHALL BE 2" UNLESS OTHERWISE SHOWN.
3. REINFORCEMENT STEEL SHALL EXTEND A MINUMUM OF 6" BEYOND A 90° BEND.
4. MINIMUM LAP FOR REINFORCEMENT STEEL SPLICES SHALL BE 16" FOR #4 BAR AND 24" FOR FOR #6 BAR.

1 MIXING STRUCTURE
D-15 SCALE AS SHOWN

AS BUILT
PROJECT SUPERVISOR
BY________
DATE________

REV	DESCRIPTION	DATE	APPR
AB	AS-BUILT RECORD DRAWING		

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3950 industrial boulevard, suite 100c
west sacramento, california 95691-3430

ORIGINAL
STAMPED BY
Edward E.Wallace
R.C.E. #32301

DATE 04/16/01
DESIGN LA/MF
DRAWN HVK
CHECKED EW

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
*** ORIGINAL CONTRACT DOCUMENT SIGNED BY ***
*** Al M. Gurevick ***
*** 4/16/01 ***
DATE

GUADALUPE CREEK RESTORATION PROJECT

MIXING STRUCTURE

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE
SCALE AS SHOWN

SHEET AB
D-15
50 OF 52

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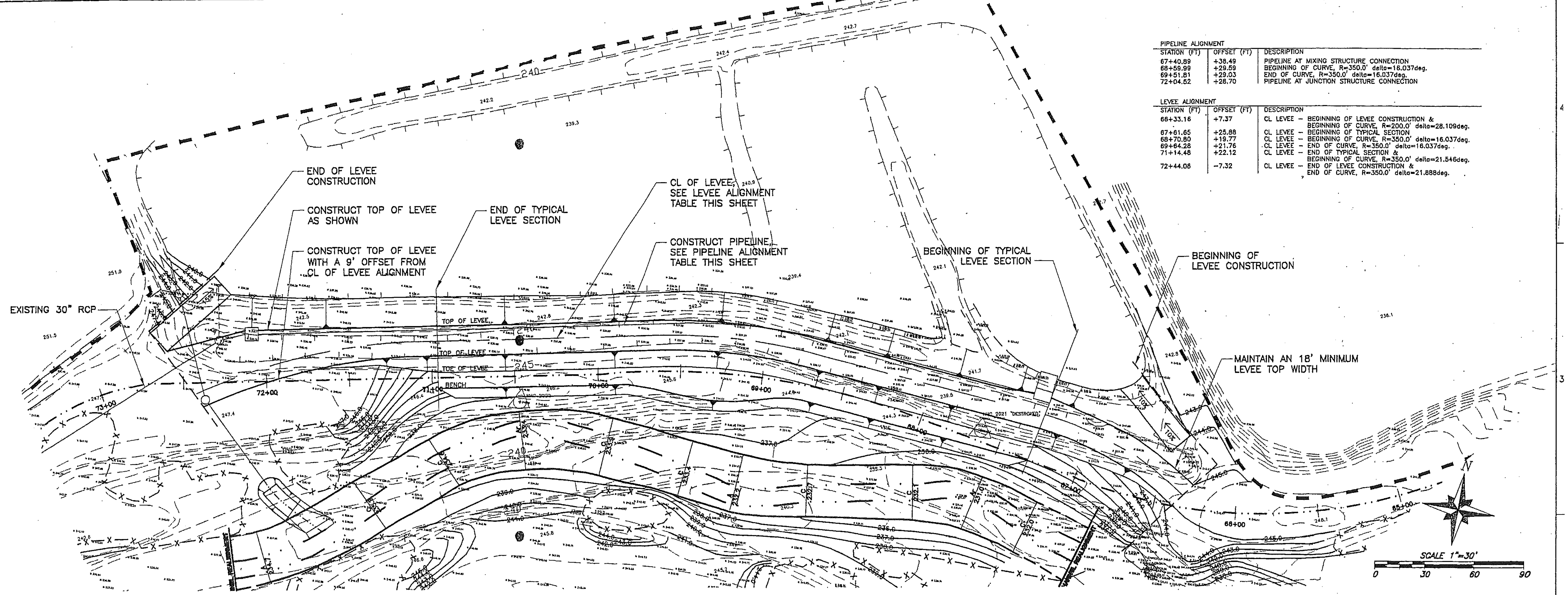
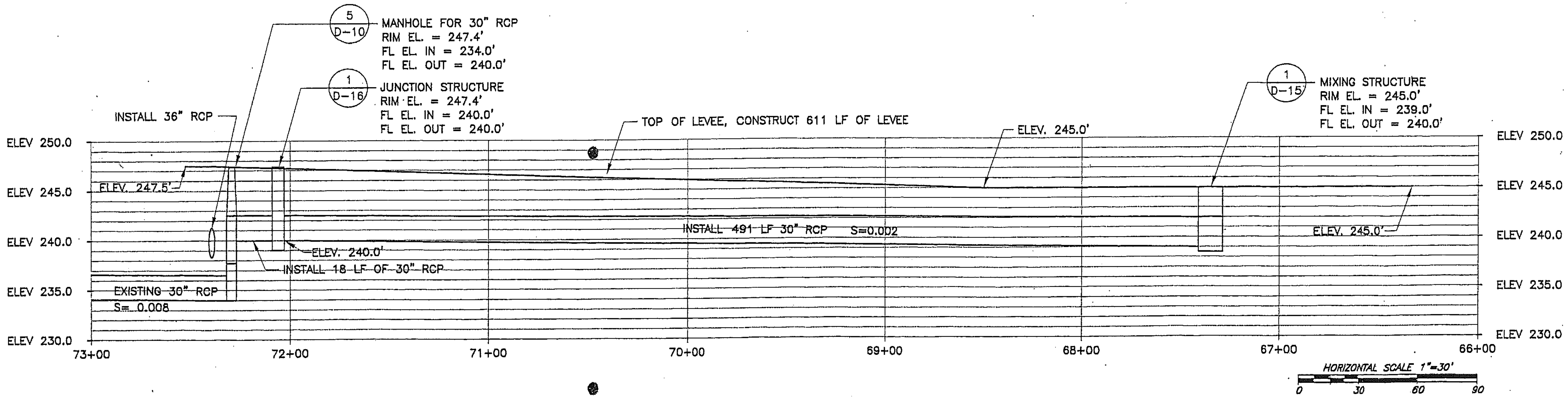

END OF LEVEE CONSTRUCTION
CONSTRUCT TOP OF LEVEE AS SHOWN
CONSTRUCT TOP OF LEVEE WITH A 9' OFFSET FROM CL OF LEVEE ALIGNMENT
END OF TYPICAL LEVEE SECTION
CL OF LEVEE, SEE LEVEE ALIGNMENT TABLE THIS SHEET
CONSTRUCT PIPELINE, SEE PIPELINE ALIGNMENT TABLE THIS SHEET
BEGINNING OF TYPICAL LEVEE SECTION
BEGINNING OF LEVEE CONSTRUCTION
MAINTAIN AN 18' MINIMUM LEVEE TOP WIDTH
EXISTING 30" RCP
TOP OF LEVEE
TOE OF LEVEE
BENCH
73+00
72+00
71+00
70+00
69+00
68+00
67+00
66+00
65+00
240
245
N
SCALE 1"=30'
0
30
60
90

PIPELINE ALIGNMENT

STATION (FT)	OFFSET (FT)	DESCRIPTION
67+40.89	+38.49	PIPELINE AT MIXING STRUCTURE CONNECTION
68+59.99	+29.59	BEGINNING OF CURVE, R=350.0' delta=16.037deg.
69+51.81	+29.03	END OF CURVE, R=350.0' delta=16.037deg.
72+04.52	+28.70	PIPELINE AT JUNCTION STRUCTURE CONNECTION

LEVEE ALIGNMENT

STATION (FT)	OFFSET (FT)	DESCRIPTION
66+33.16	+7.37	CL LEVEE – BEGINNING OF LEVEE CONSTRUCTION & BEGINNING OF CURVE, R=200.0' delta=28.109deg.
67+61.65	+25.88	CL LEVEE – BEGINNING OF TYPICAL SECTION
68+70.80	+19.77	CL LEVEE – BEGINNING OF CURVE, R=350.0' delta=16.037deg.
69+64.28	+21.76	CL LEVEE – END OF CURVE, R=350.0' delta=16.037deg.
71+14.48	+22.12	CL LEVEE – END OF TYPICAL SECTION & BEGINNING OF CURVE, R=350.0' delta=21.546deg.
72+44.08	−7.32	CL LEVEE – END OF LEVEE CONSTRUCTION & END OF CURVE, R=350.0' delta=21.888deg.



REV	DESCRIPTION	DATE	APPR

Jones & Stokes
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northwest hydraulic consultants, inc.
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west sacramento, california 95691-3430

EDWARD E. WALLACE
32301
EXP. 12/31/04
CIVIL

DATE 04/16/01
DESIGN EW/SS
DRAWN SS/JS
CHECKED EW/JZ

Santa Clara Valley Water District

ACCEPTED BY DISTRICT
4/16/01
DATE

GUADALUPE CREEK RESTORATION PROJECT

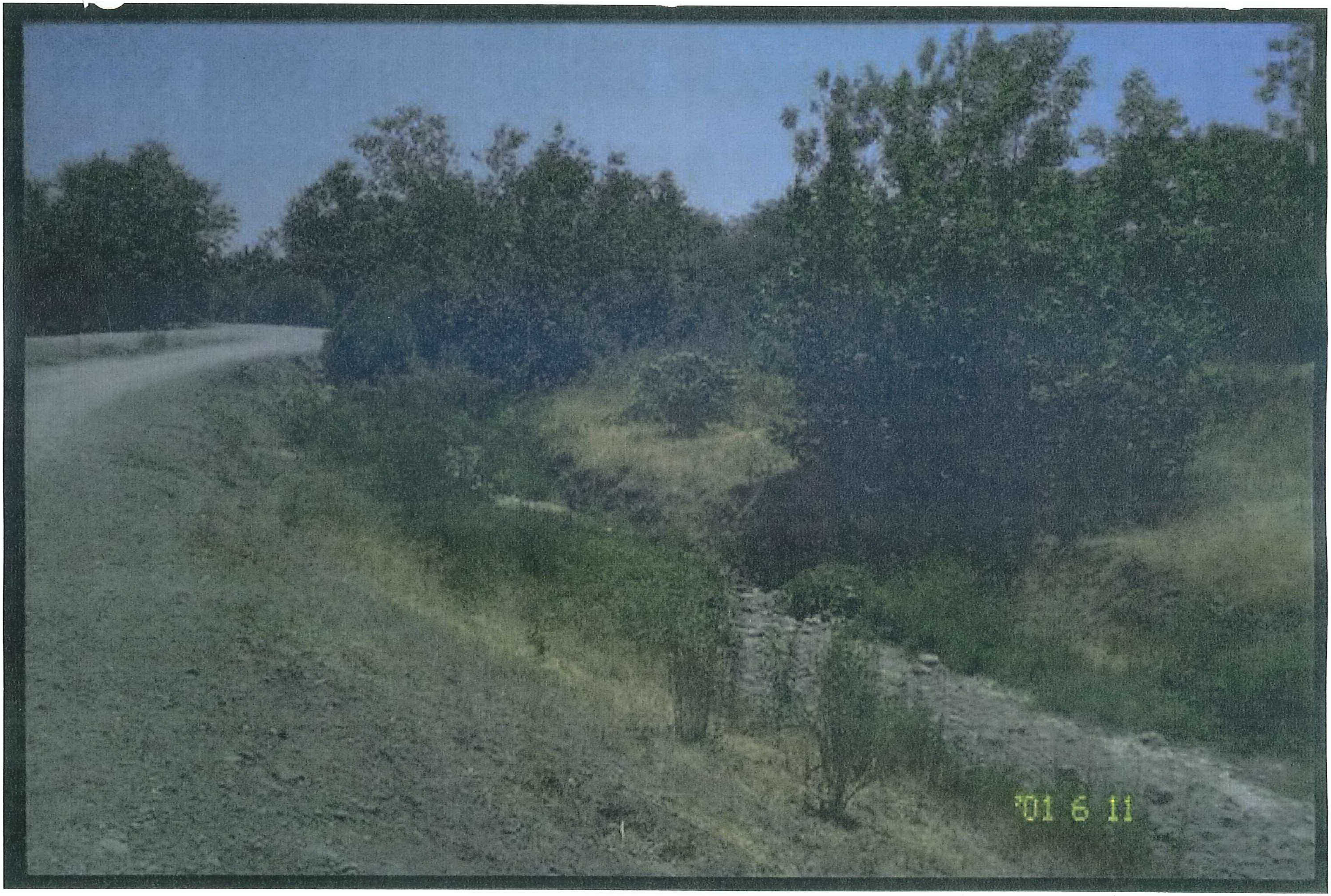
LEVEE CONSTRUCTION

VERIFY SCALES
0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

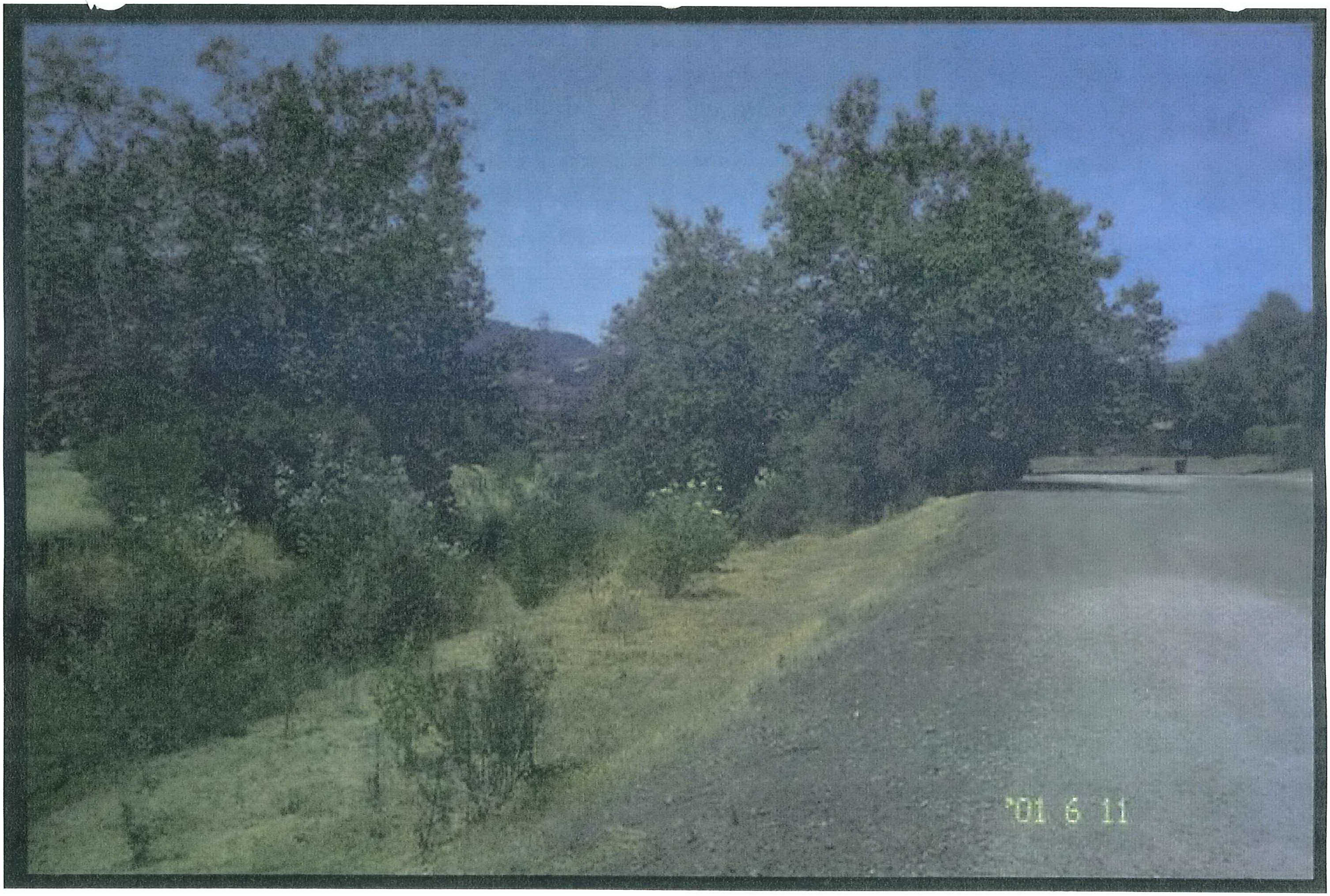
SCALE AS SHOWN
SHEET
LC–1
52 OF 52

APPENDIX B

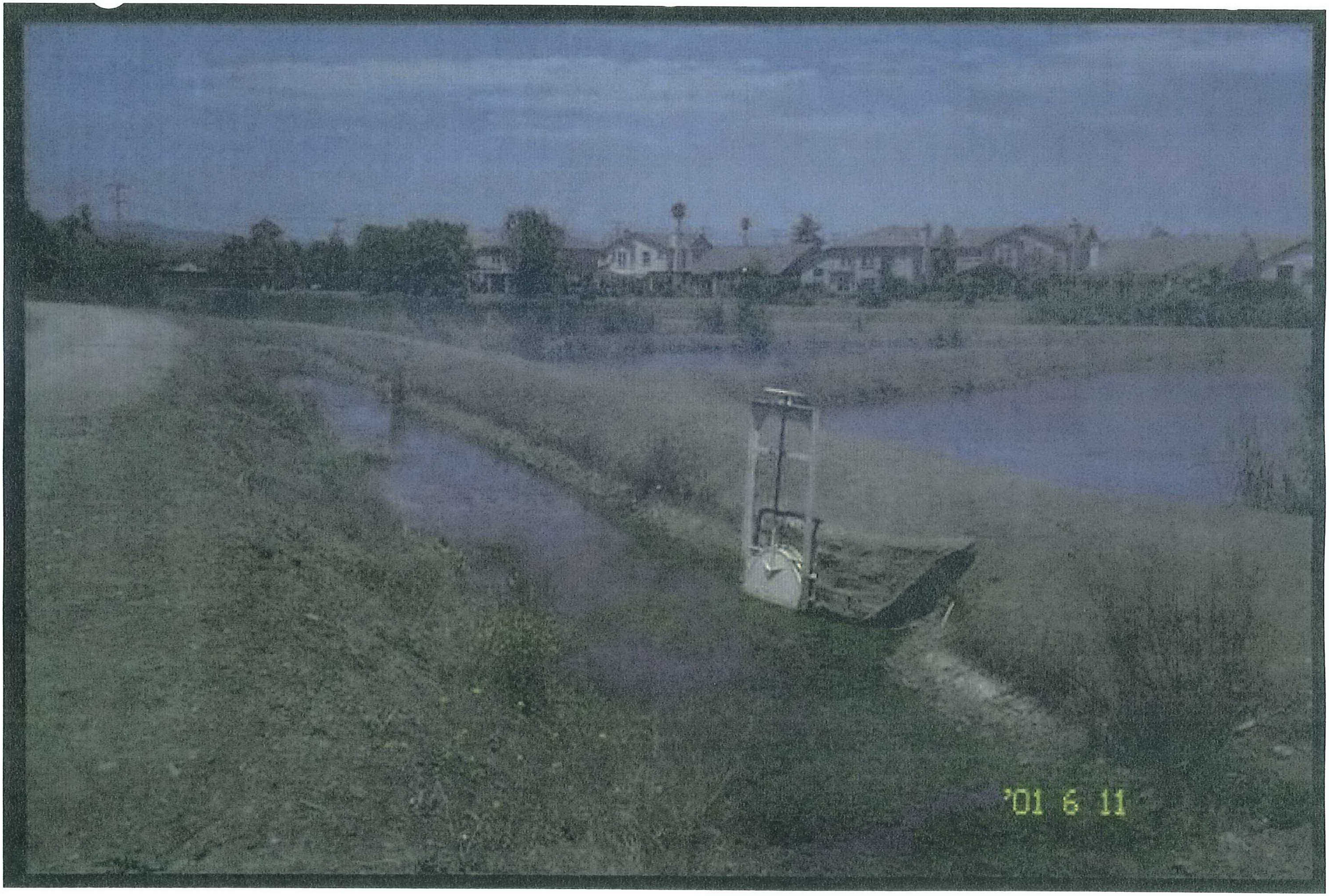
- Guadalupe Creek Restoration Project Pre-construction, Progress, and Post-installation Photographs



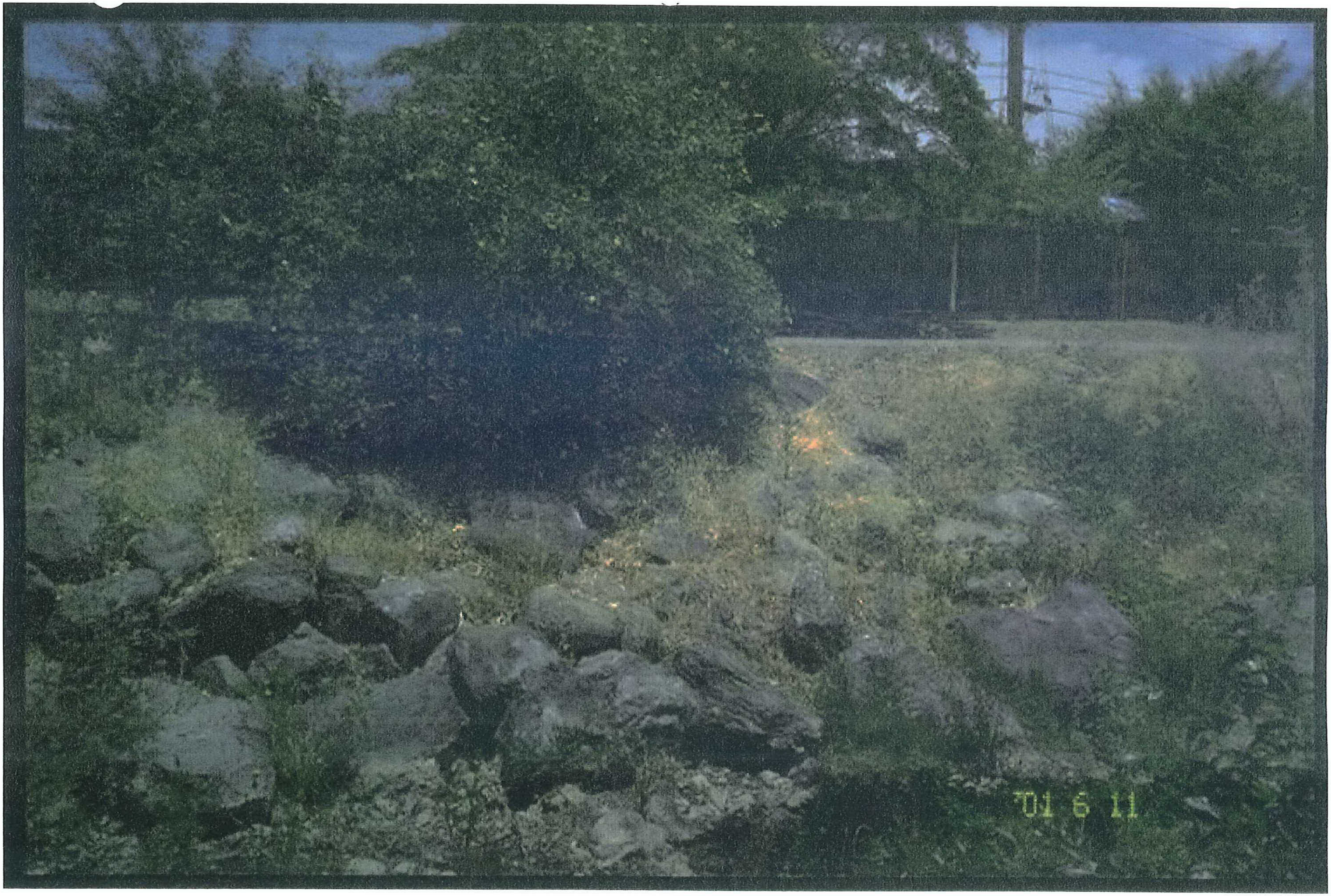
Guadalupe Creek Preconstruction Site Photo - Reach 4



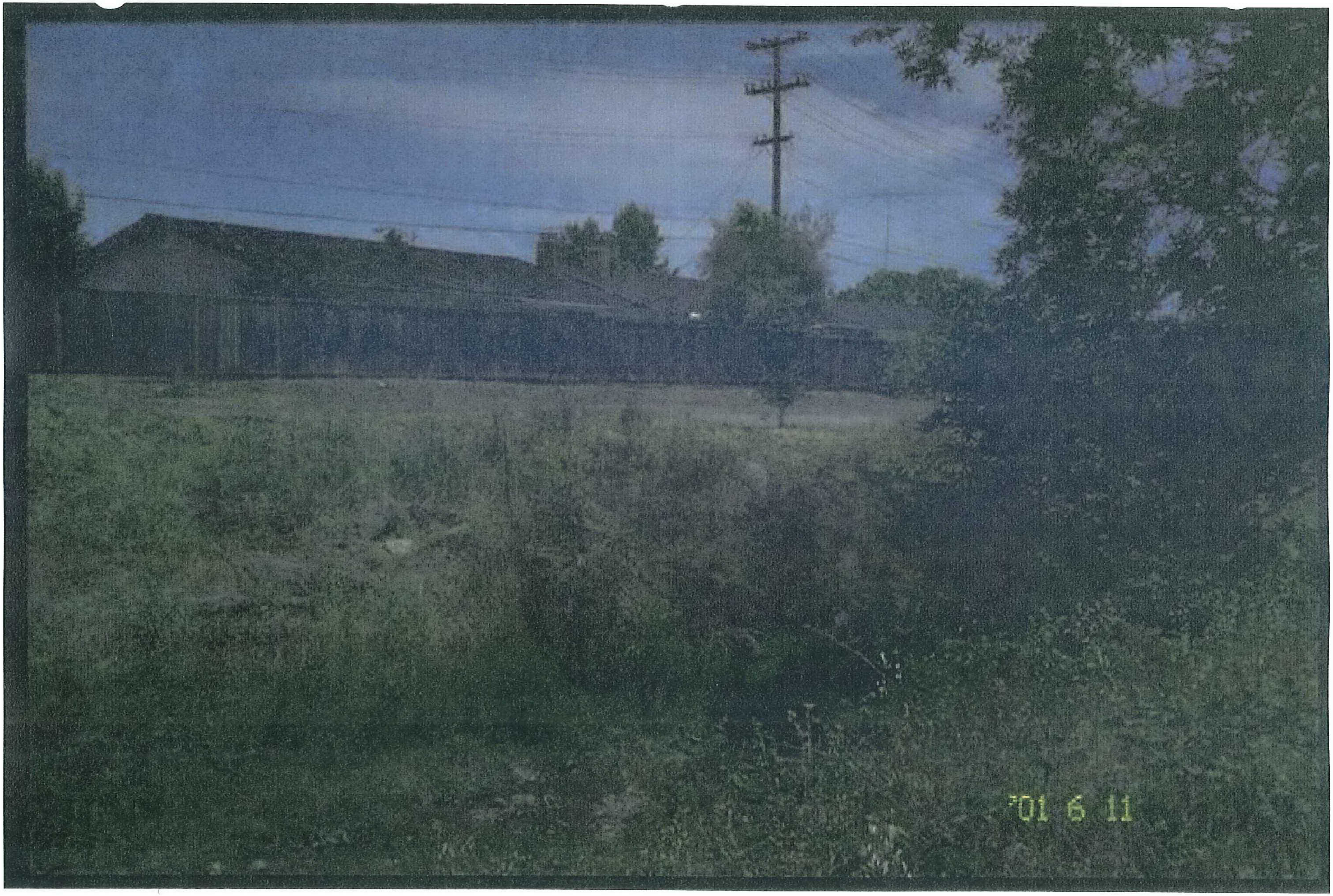
Guadalupe Creek Preconstruction Site Photo - Reach 4



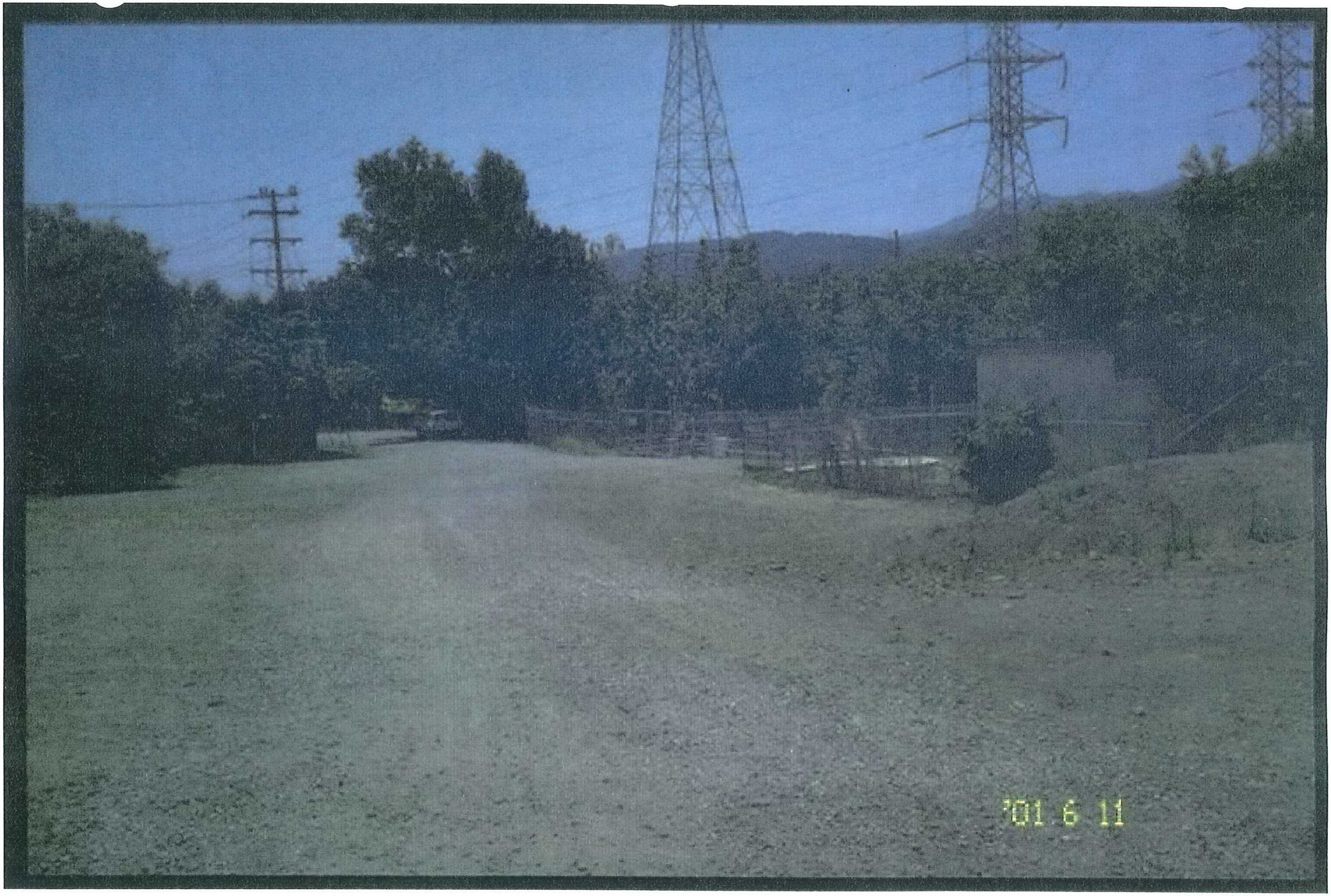
Guadalupe Creek Preconstruction Site Photo - Mixing Channel



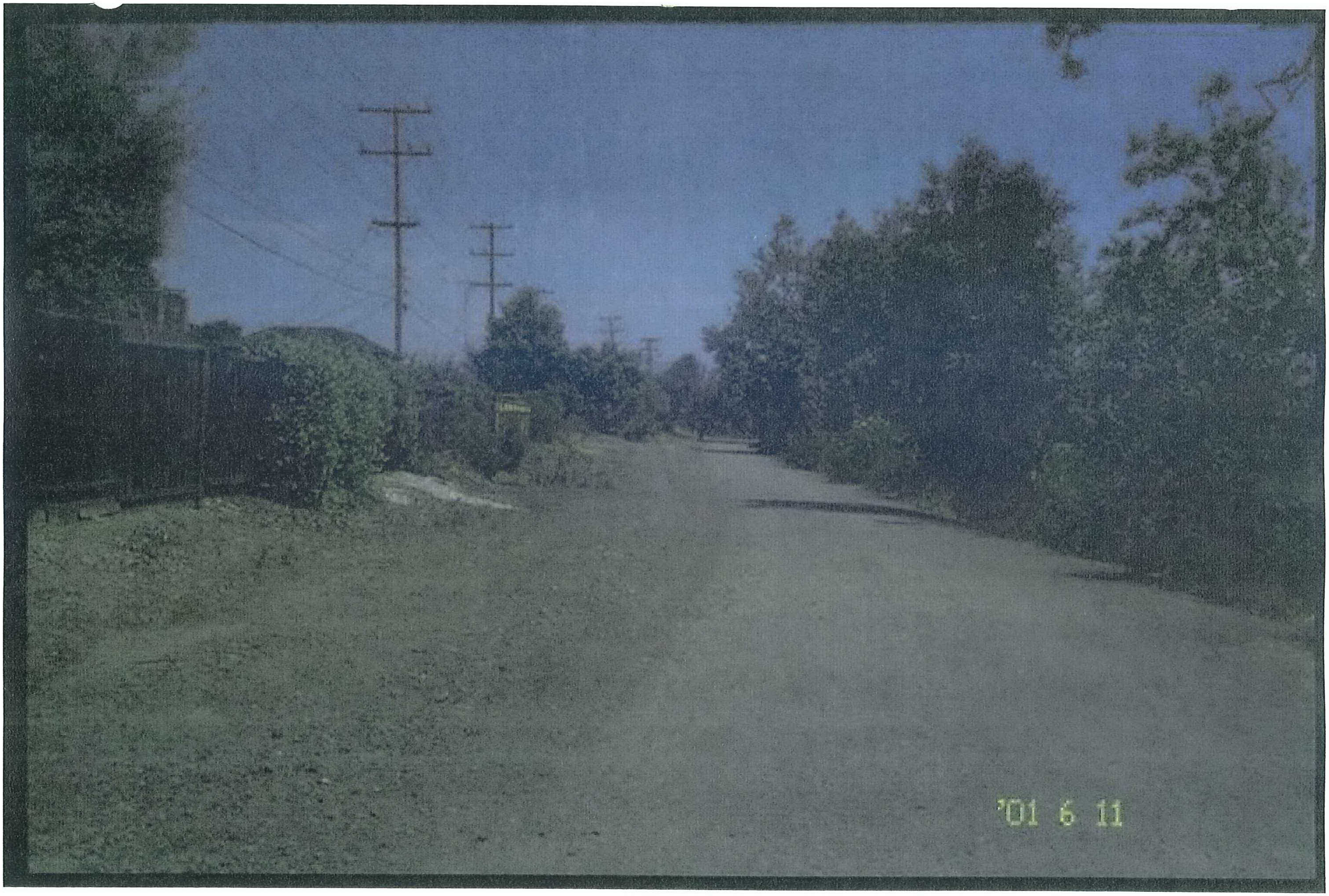
Guadalupe Creek Preconstruction Site Photo - Reach 2



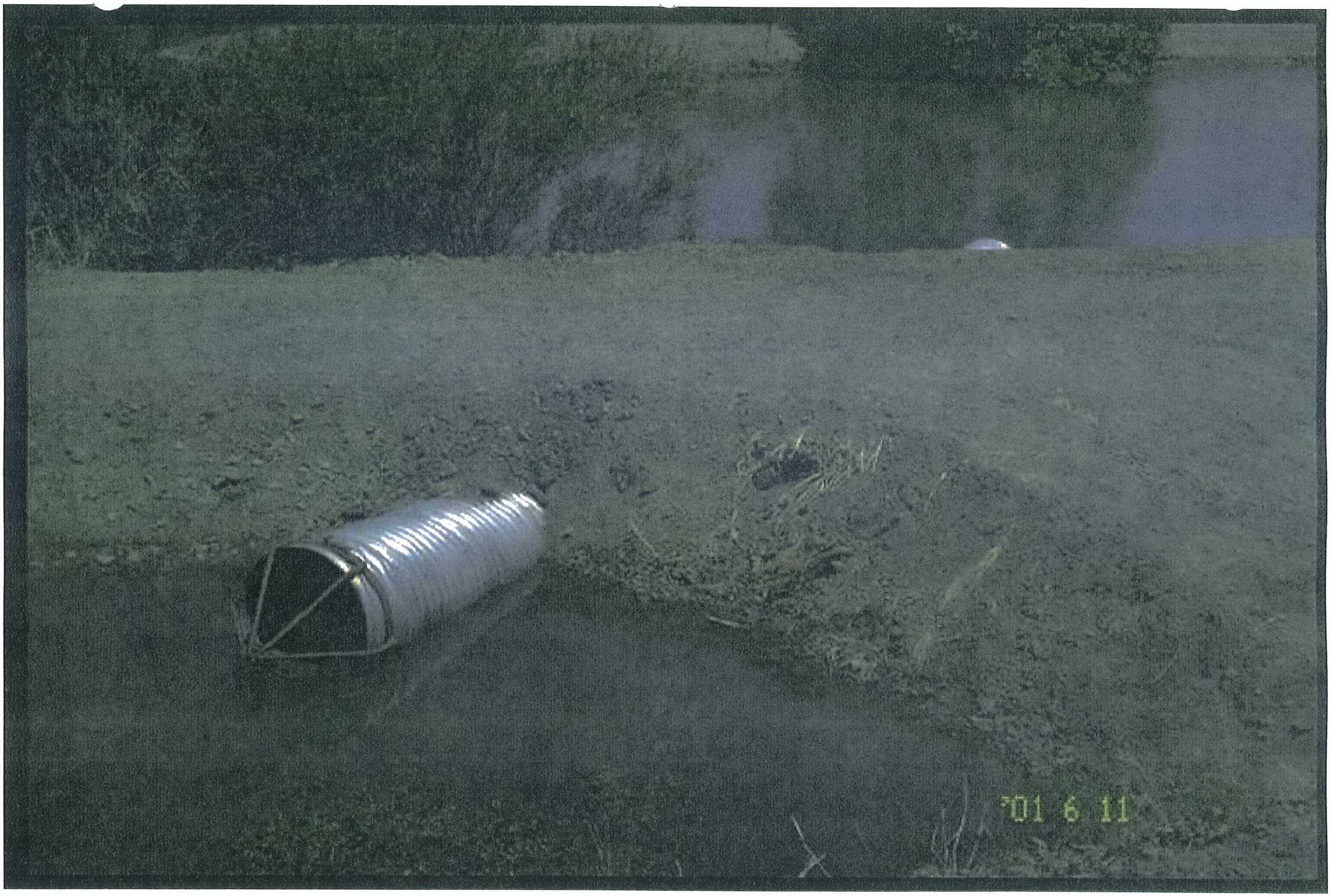
Guadalupe Creek Preconstruction Site Photo - Upstream Meridian Avenue Bridge



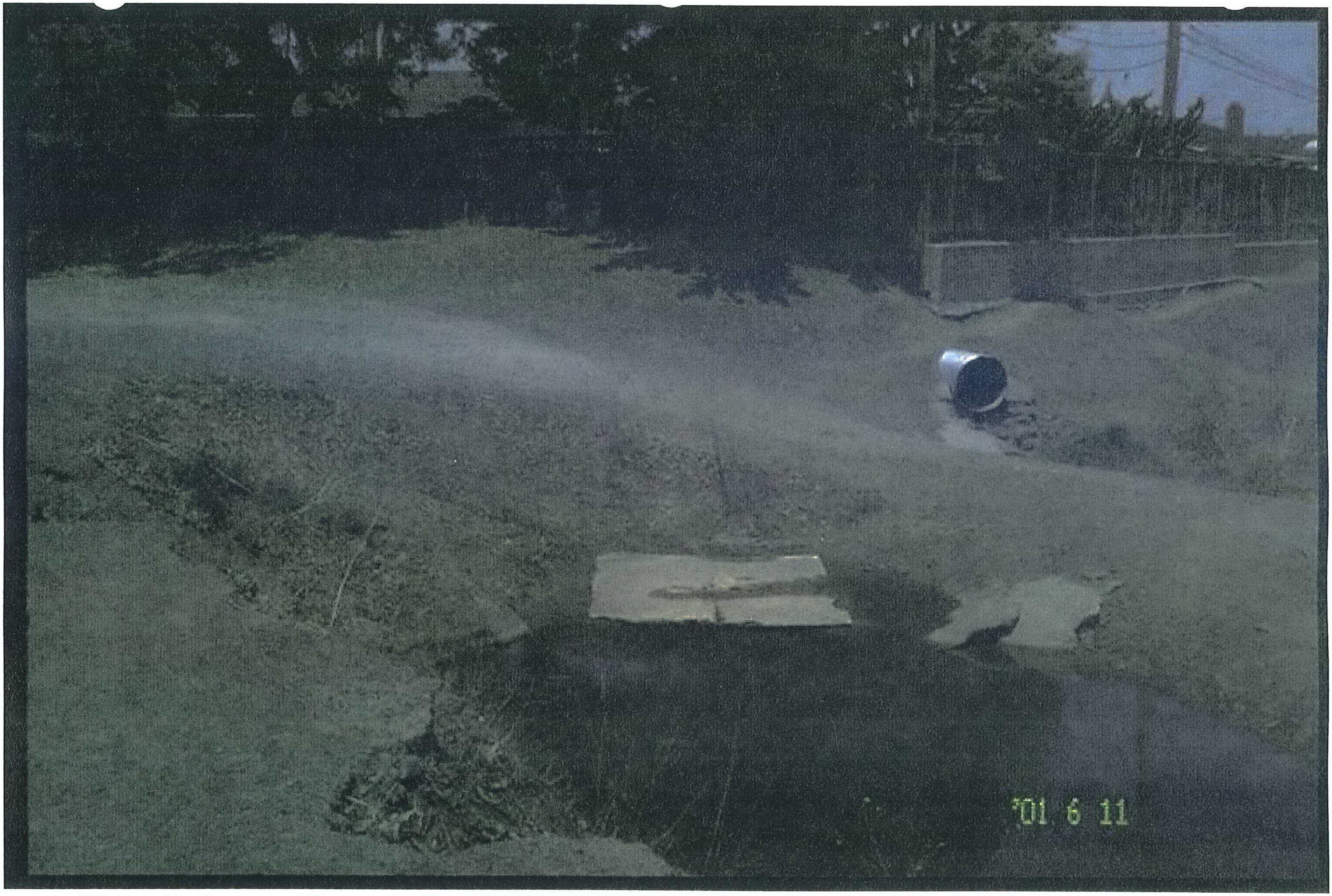
Guadalupe Creek Preconstruction Site Photo - Maintenance Road at Masson Dam



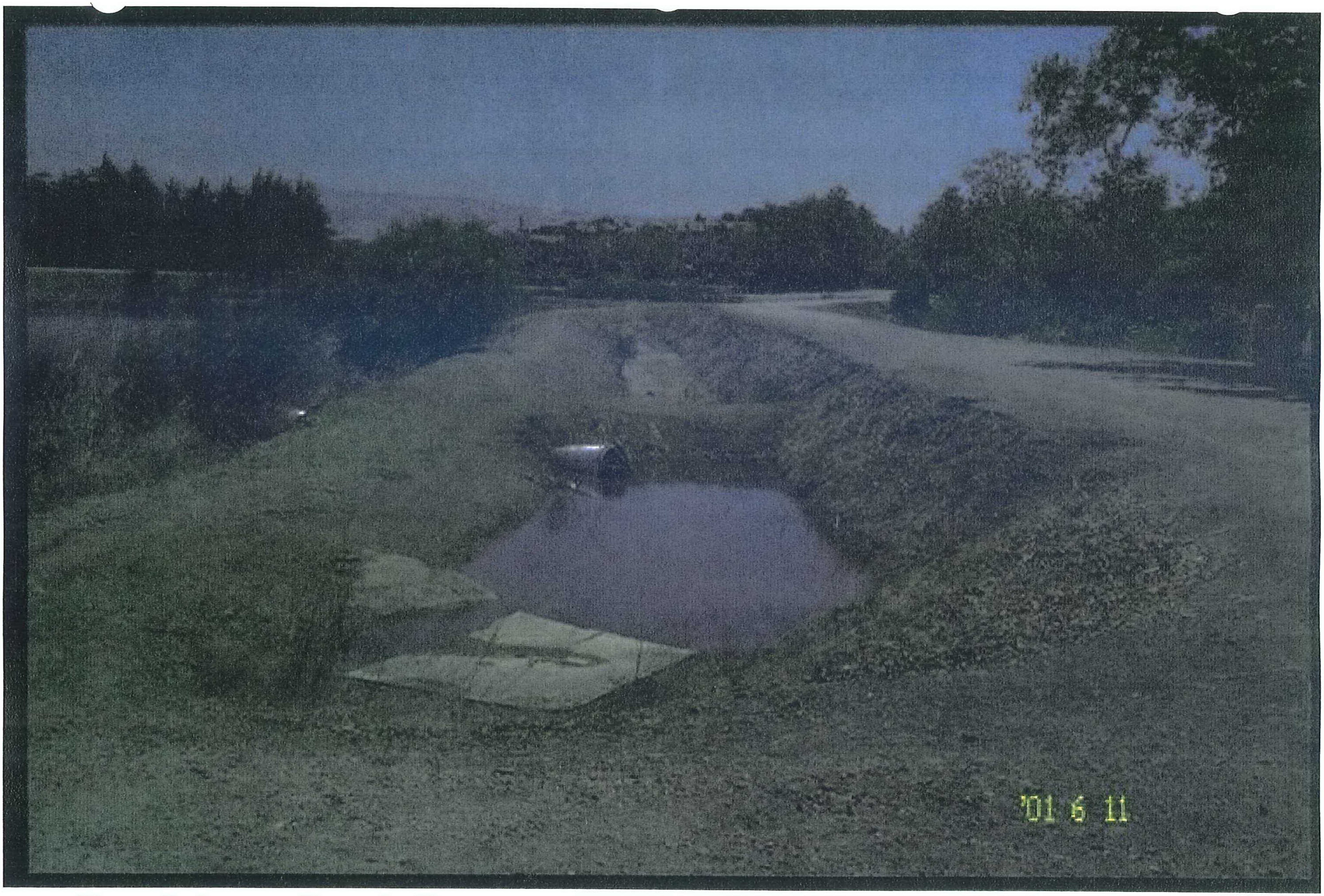
Guadalupe Creek Preconstruction Site Photo - Maintenance Road, Reach 4



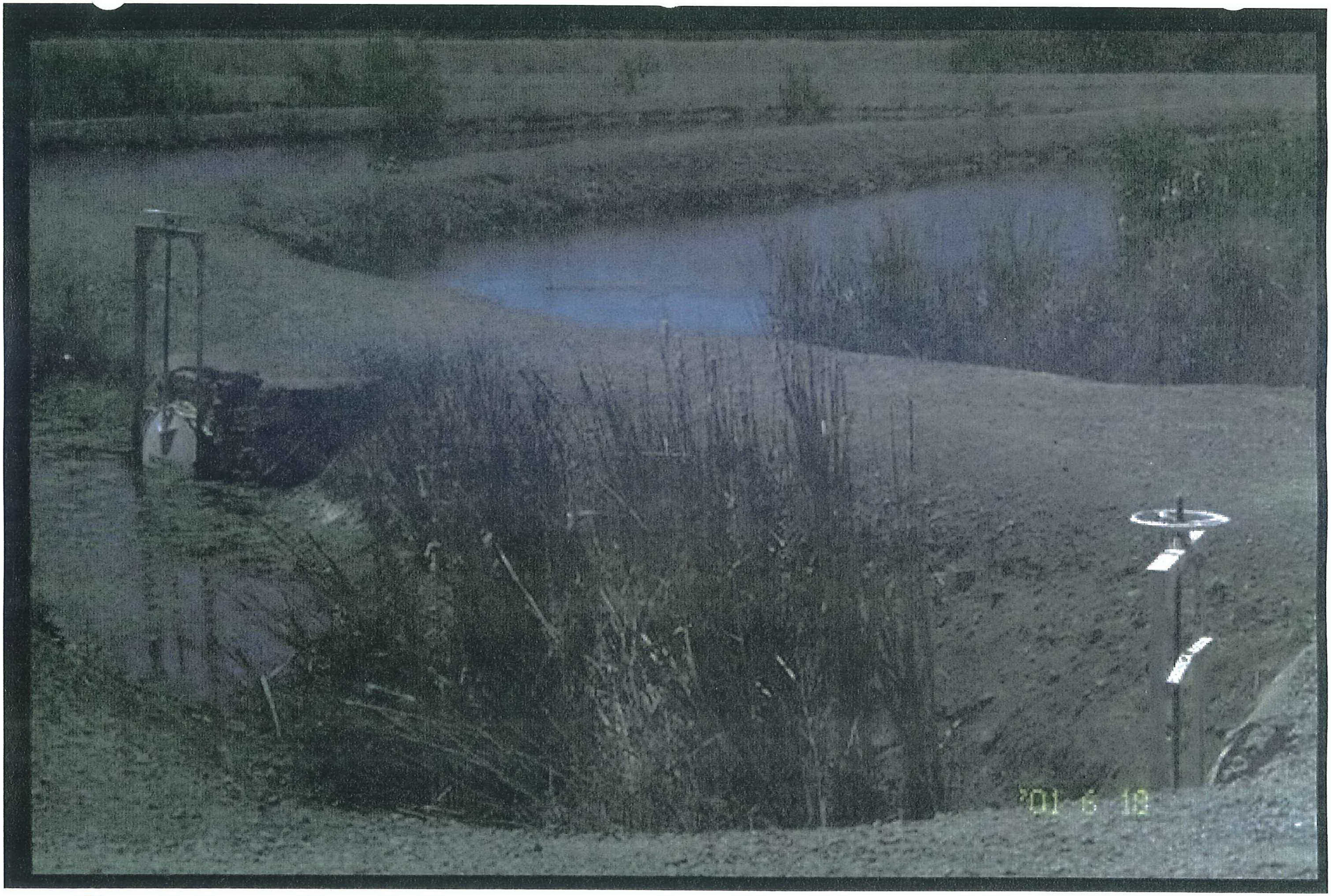
Guadalupe Creek Construction Site Photo - Temporary Channel
Diversion Structure at Mixing Channel



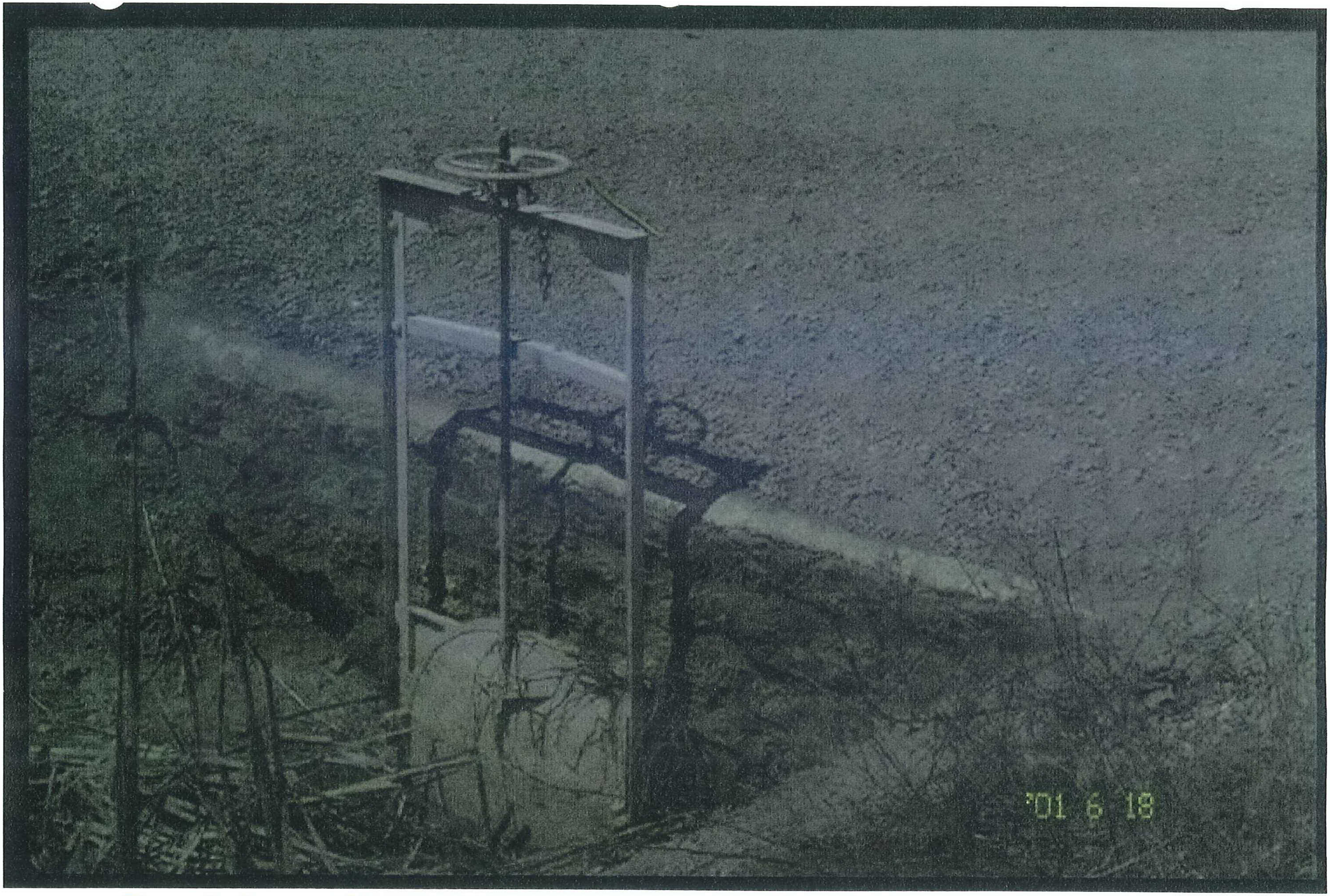
Guadalupe Creek Preconstruction Site Photo - Mixing Channel



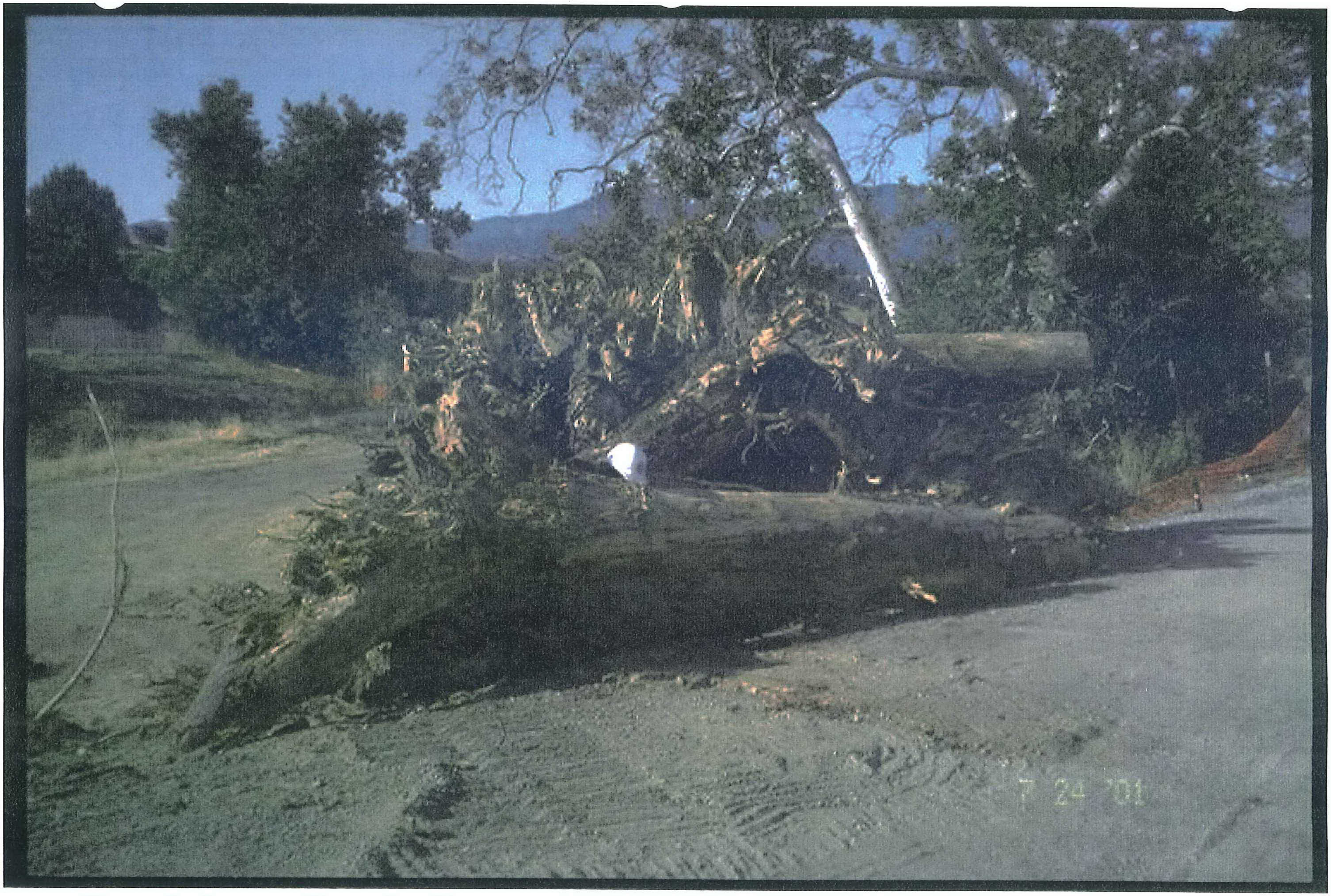
Guadalupe Creek Preconstruction Site Photo - Mixing Channel



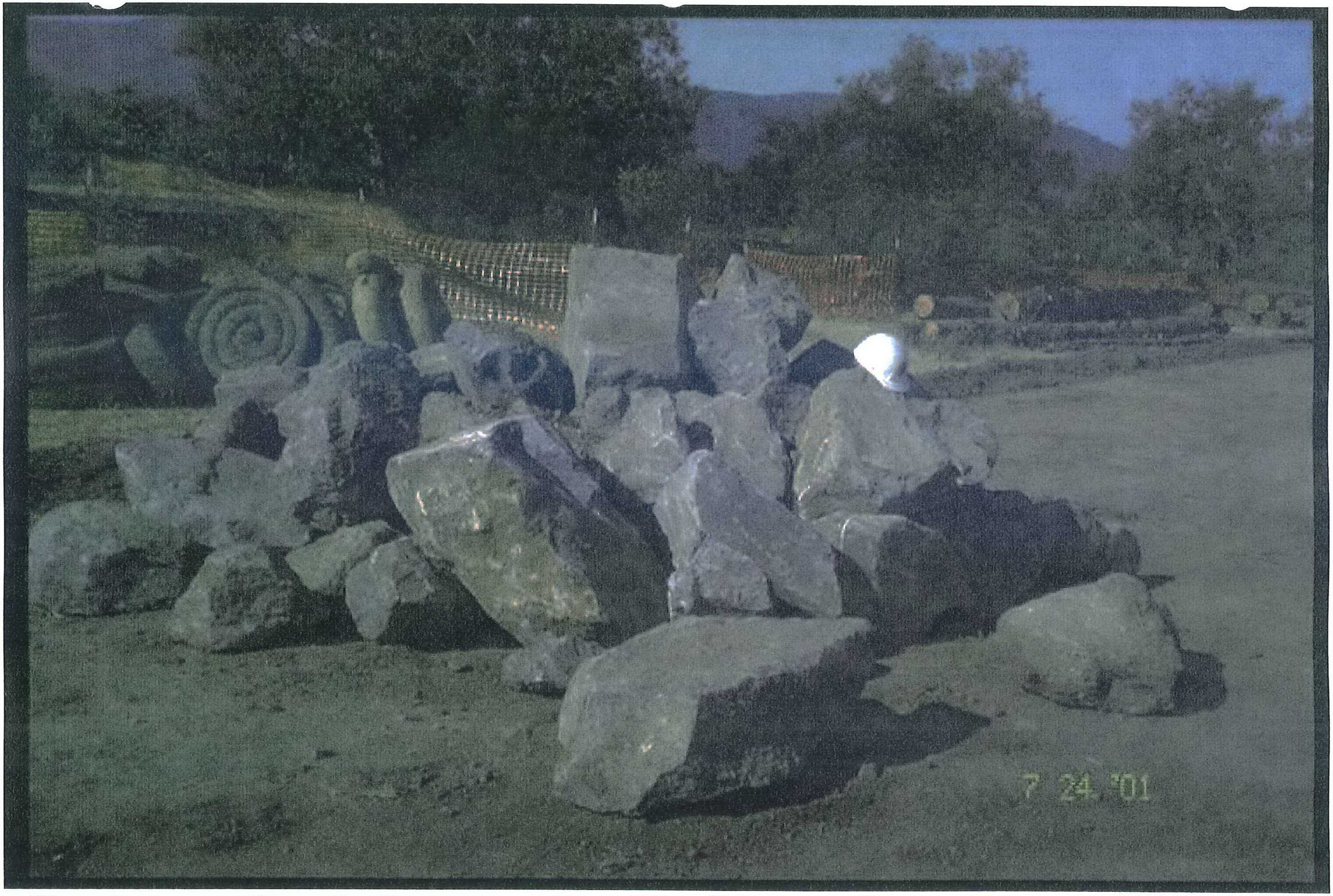
Guadalupe Creek Preconstruction Site Photo - Mixing Channel



Guadalupe Creek Preconstruction Site Photo - Stormdrain
Headwall to be removed and reconstructed



Guadalupe Creek Construction Site Photo - Rootwad Instream Woody Materials



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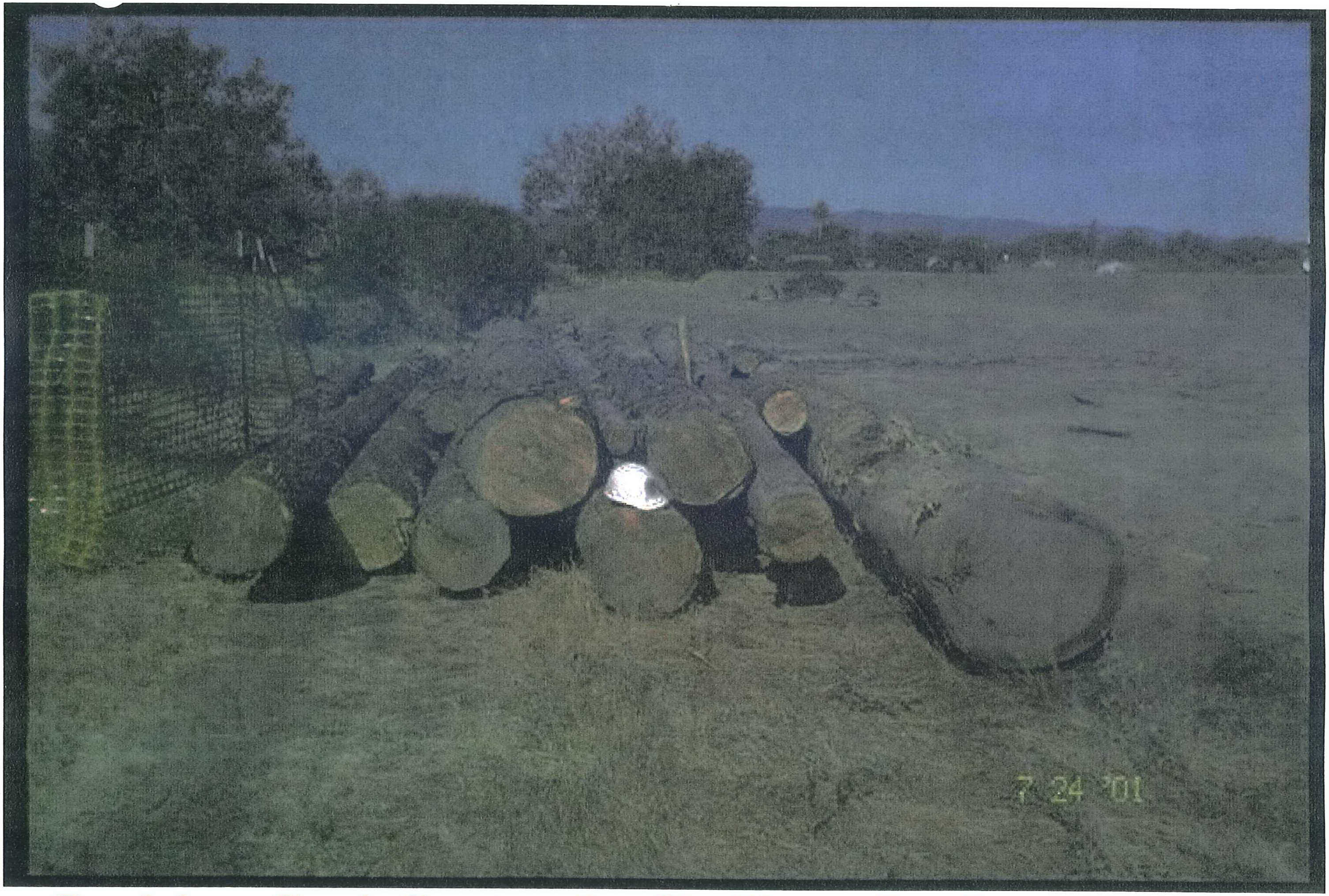
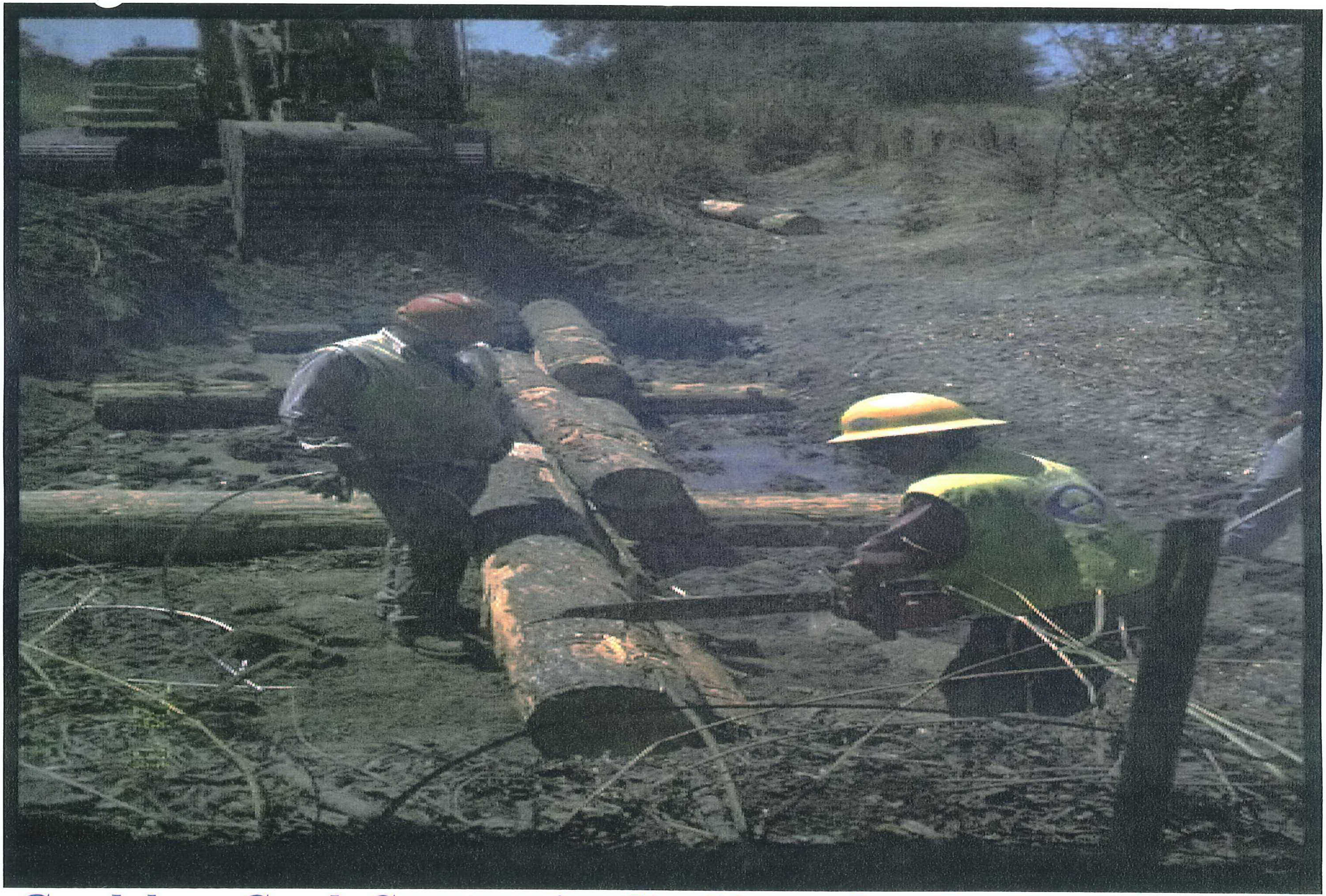
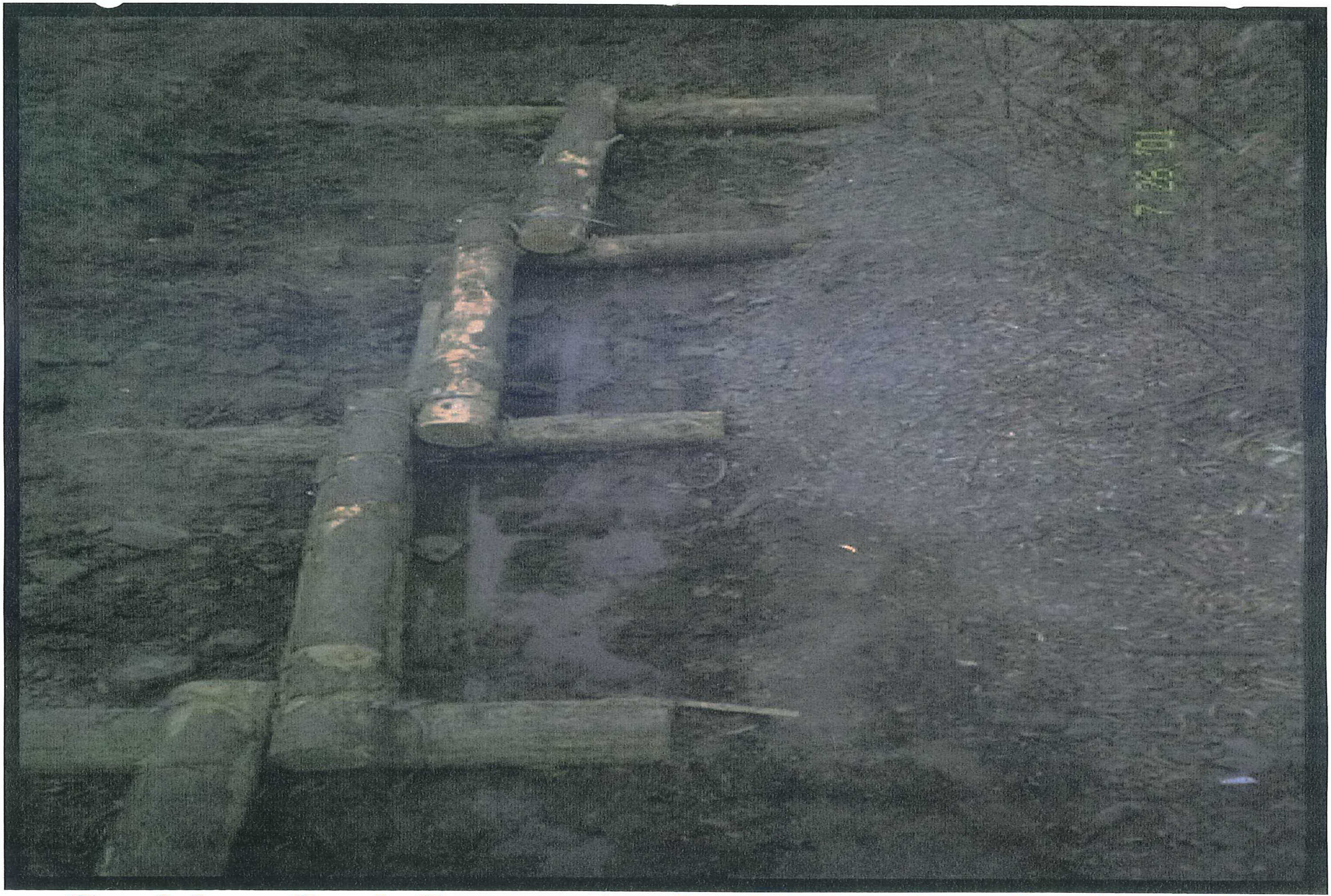
Guadalupe Creek Construction Site Photo - Type 2 Stream Boulders



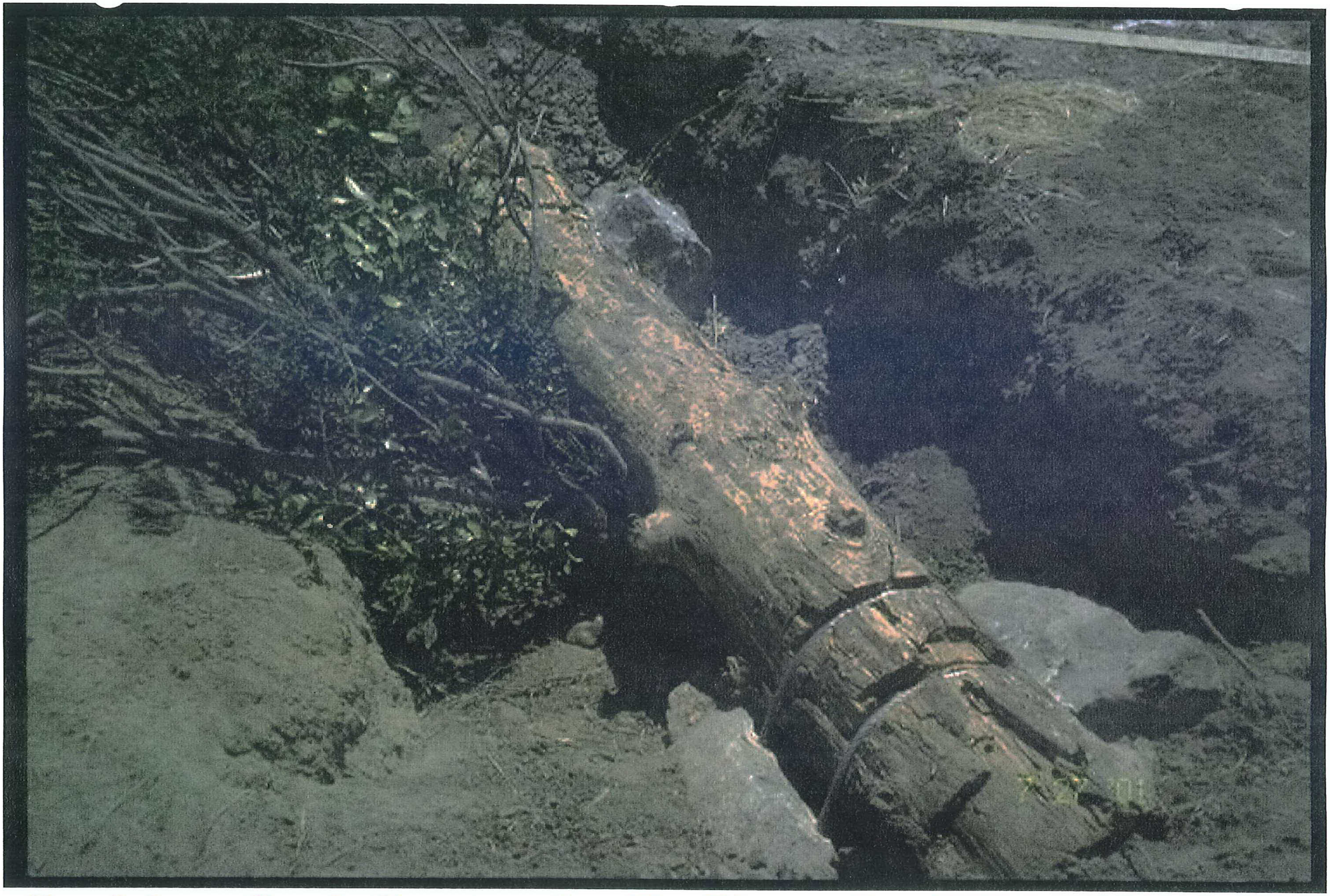
Guadalupe Creek Construction Site Photo - Log Instream Woody Material



Guadalupe Creek Construction Site Photo - Log Toe Bank Structure Installation



Guadalupe Creek Construction Site Photo - Completed Log Toe Bank Structure

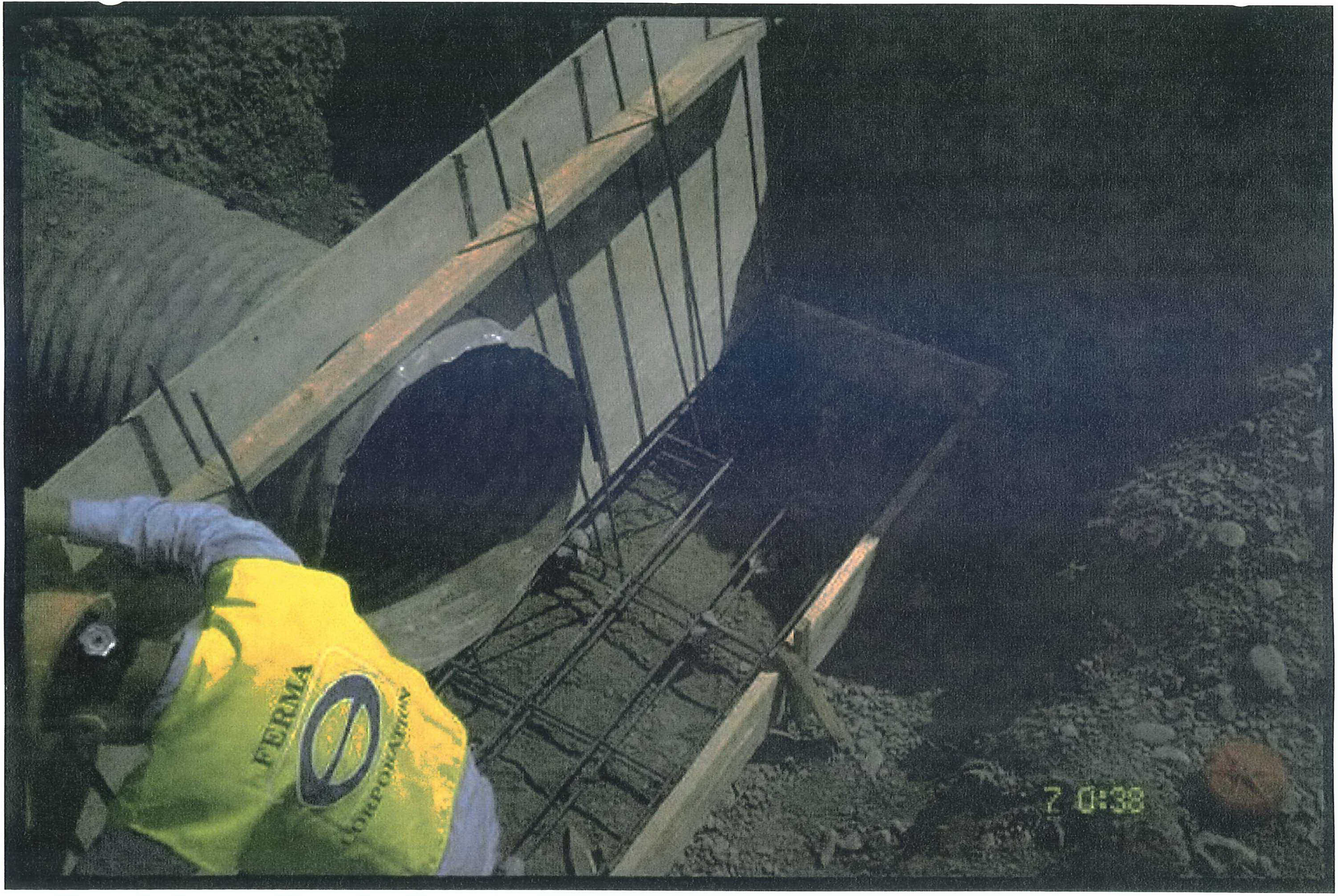


Guadalupe Creek Construction Site Photo - Bar IWM and Off-Bank Branch Cover

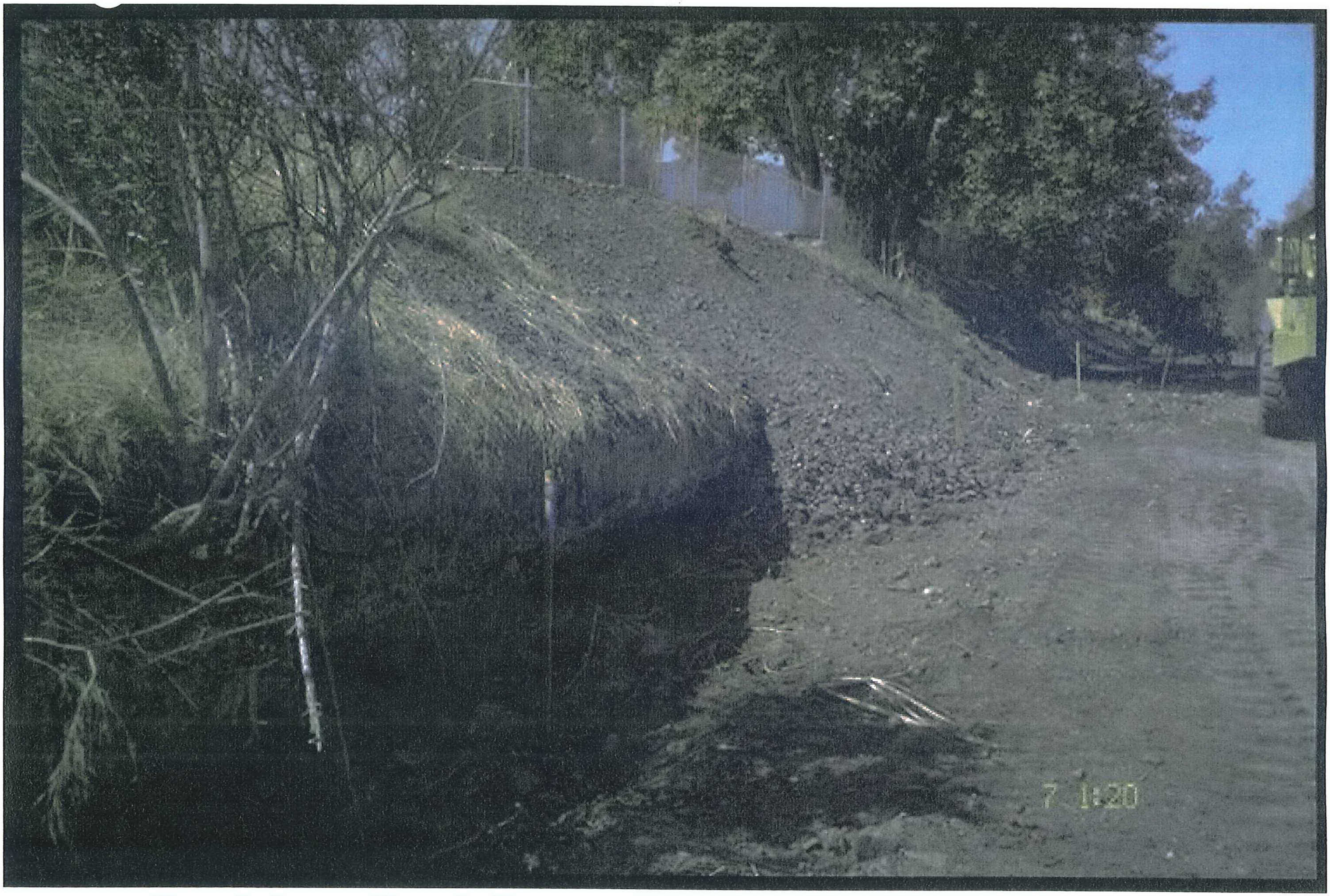
Guadalupe Creek Preconstruction Site Photo - Clearing and Grubbing Operation

Guadalupe Creek Preconstruction Site Photo - Fish Relocation Operation

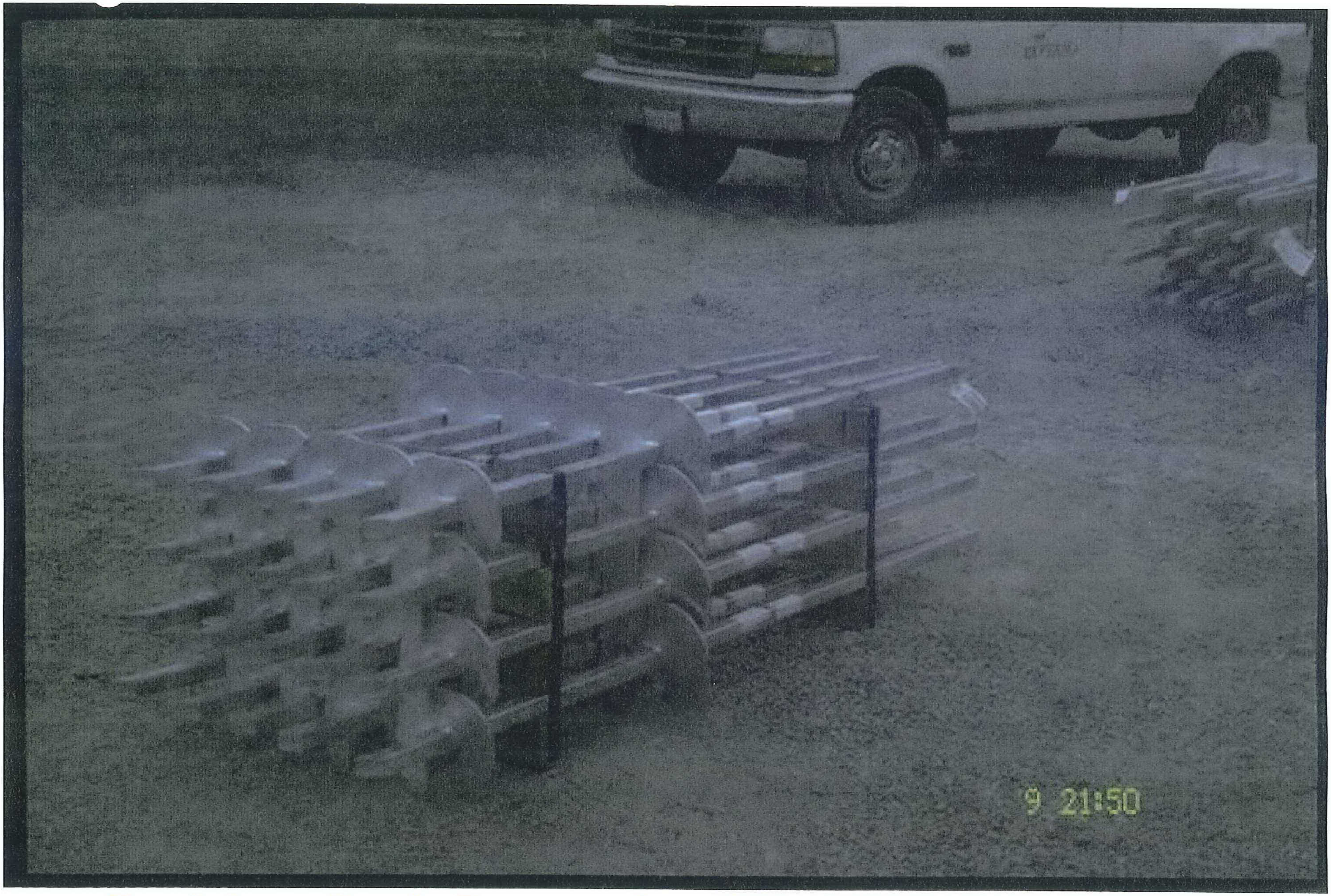
Guadalupe Creek Preconstruction Site Photo - Fish Relocation Operation



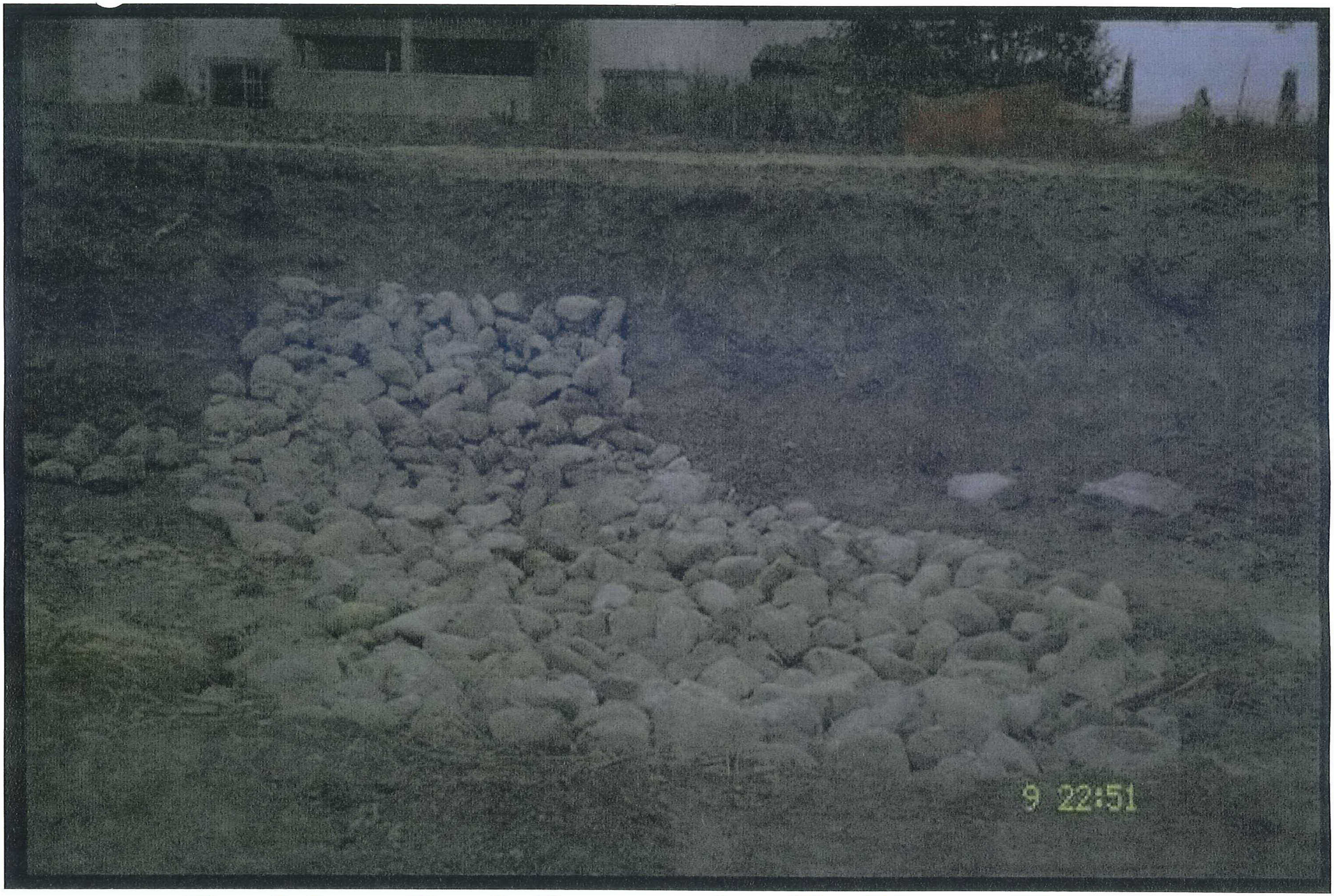
Guadalupe Creek Construction Site Photo - Stormdrain Headwall Reconstruction



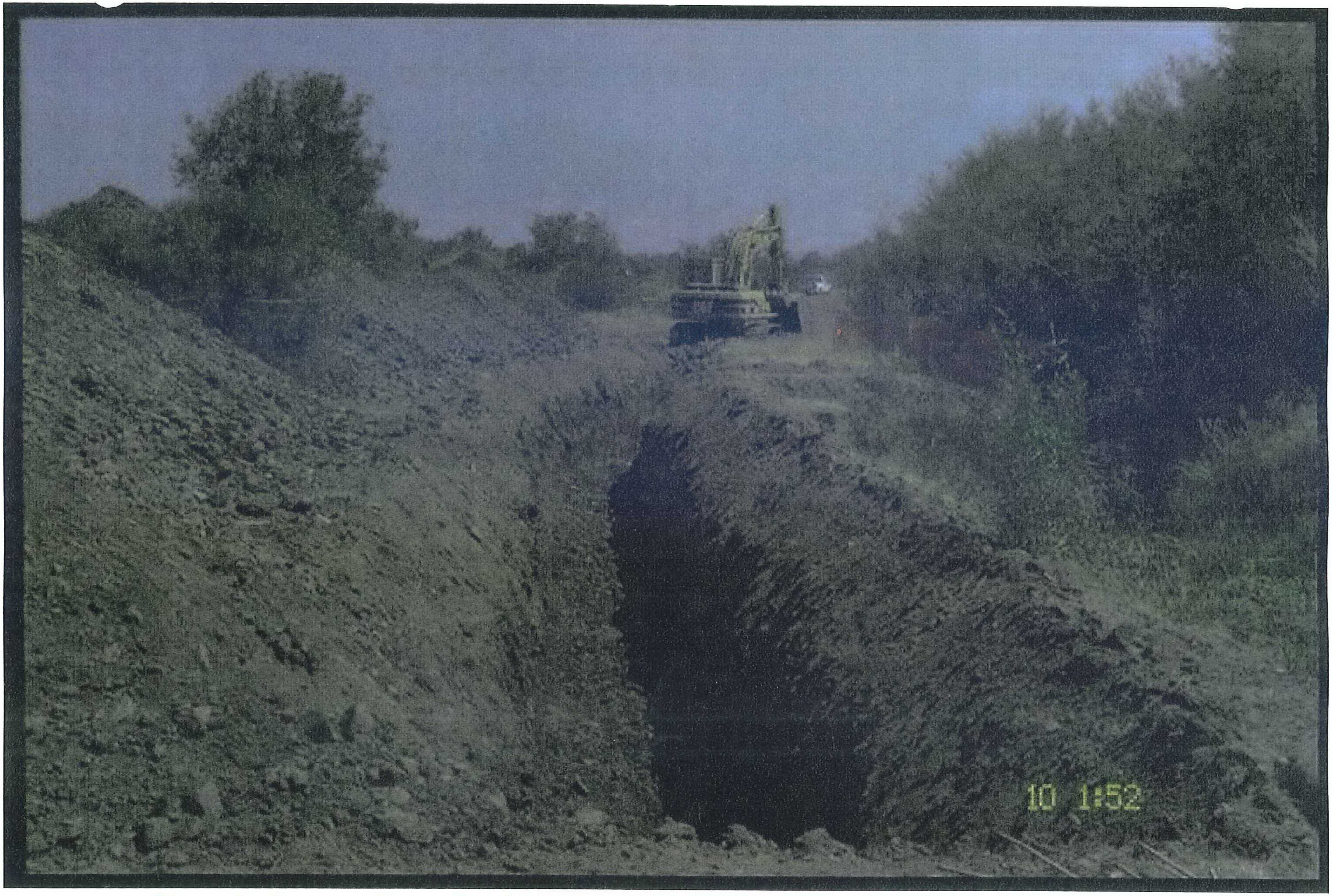
Guadalupe Creek Preconstruction Site Photo - Channel Realignment Section



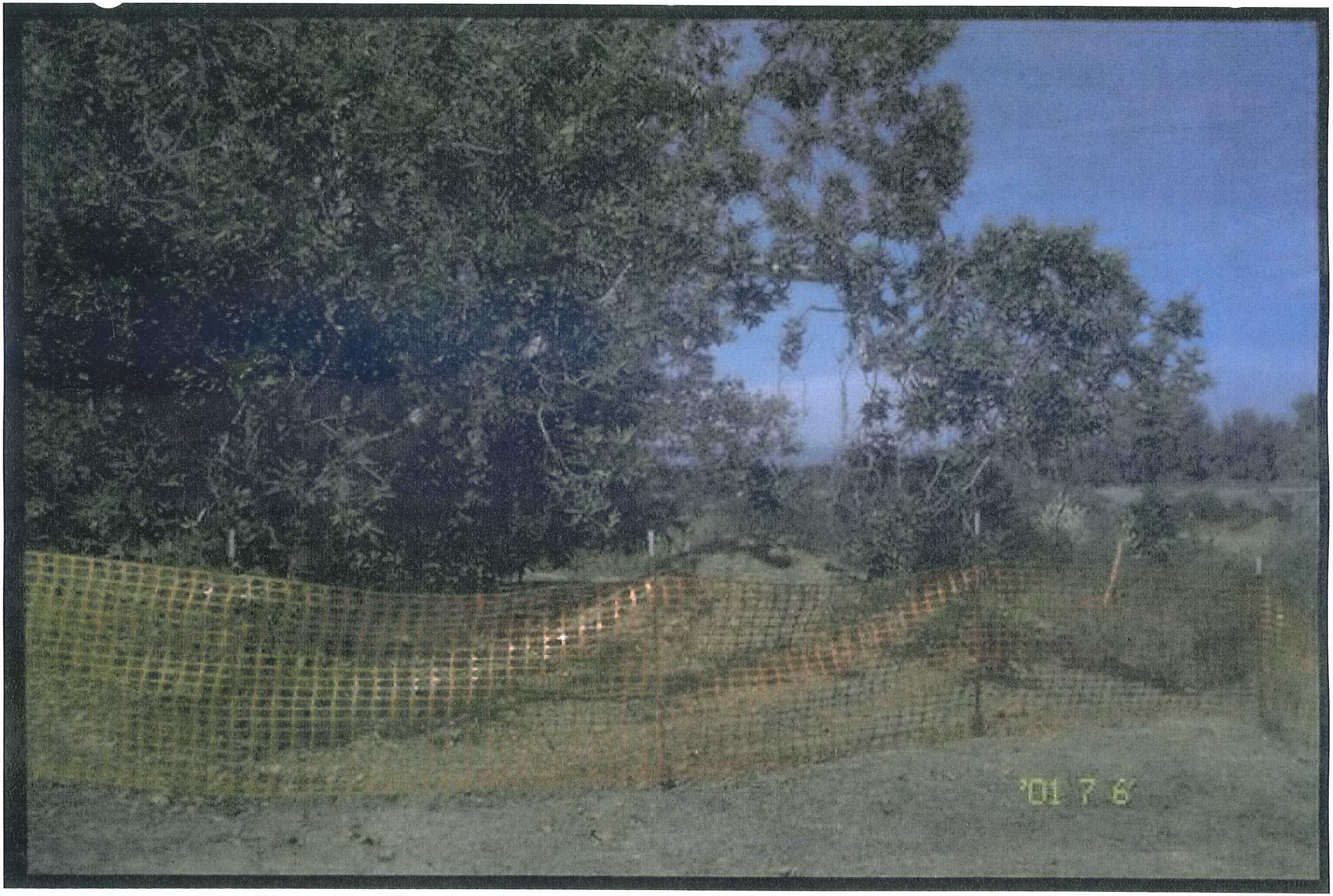
Guadalupe Creek Construction Site Photo - Helical Anchors



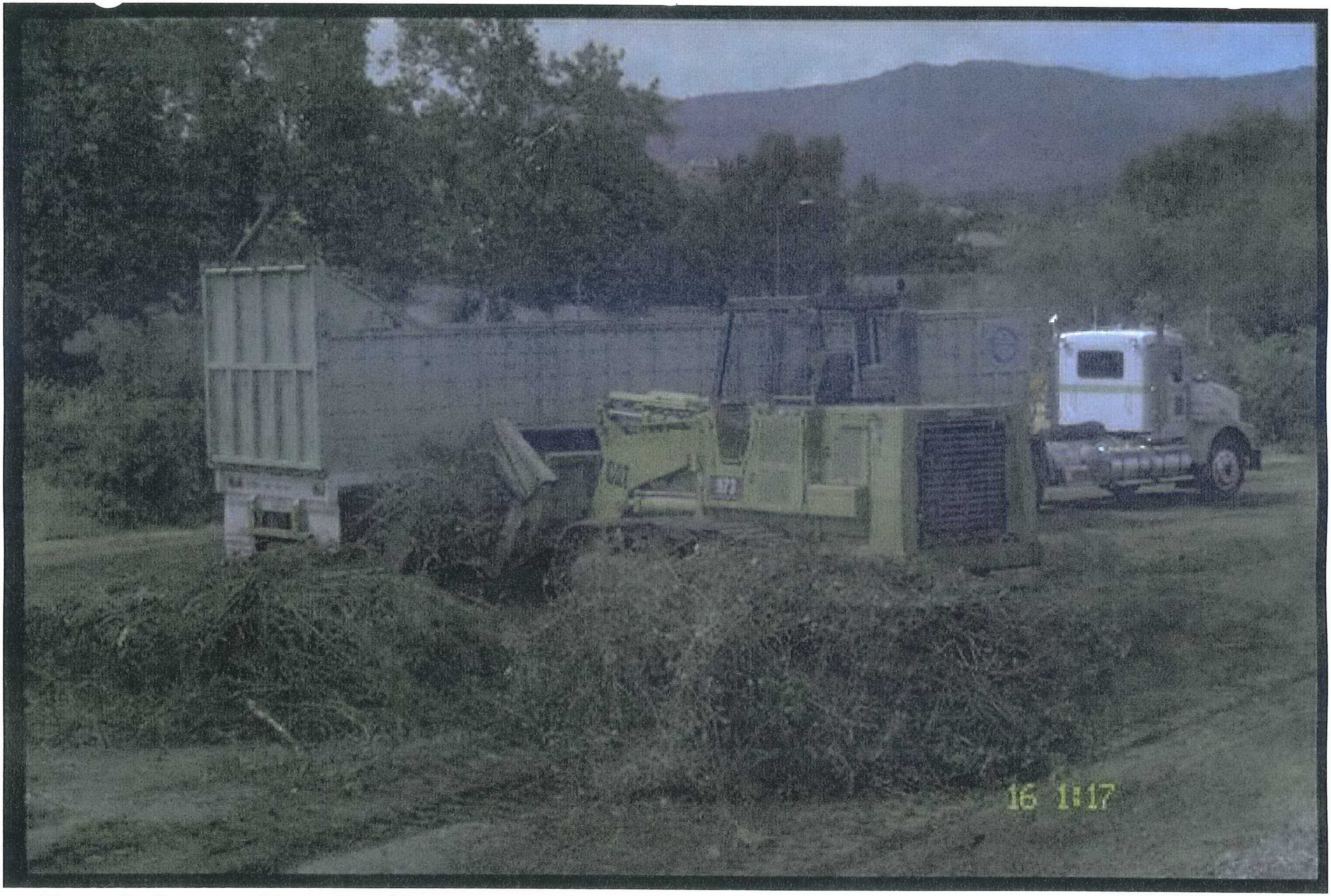
Guadalupe Creek Construction Site Photo - V-Weir



Guadalupe Creek Construction Site Photo - Temporary Groundwater Seepage Diversion Channel

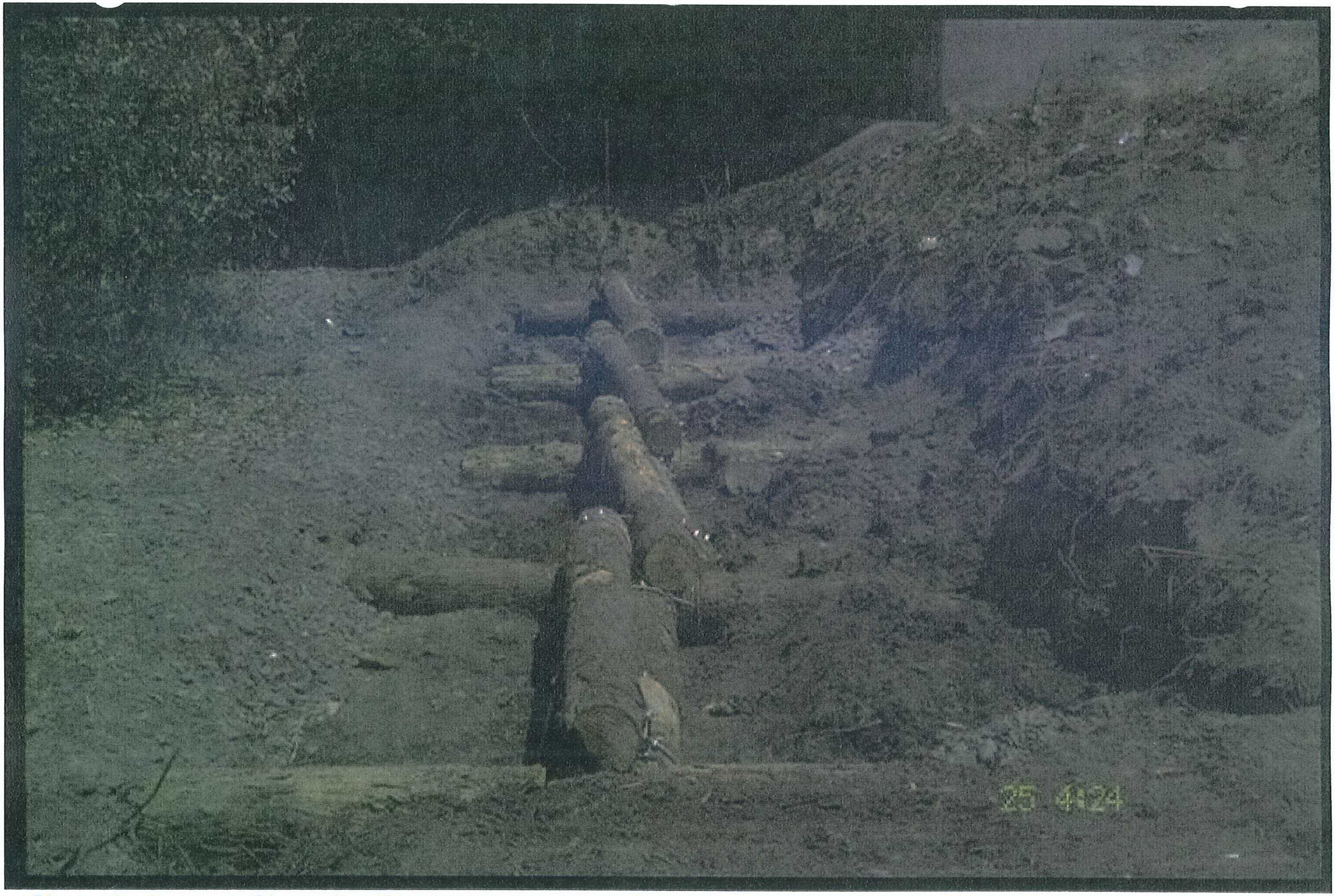


Guadalupe Creek Construction Site Photo - Vegetation Preservation Fencing Area

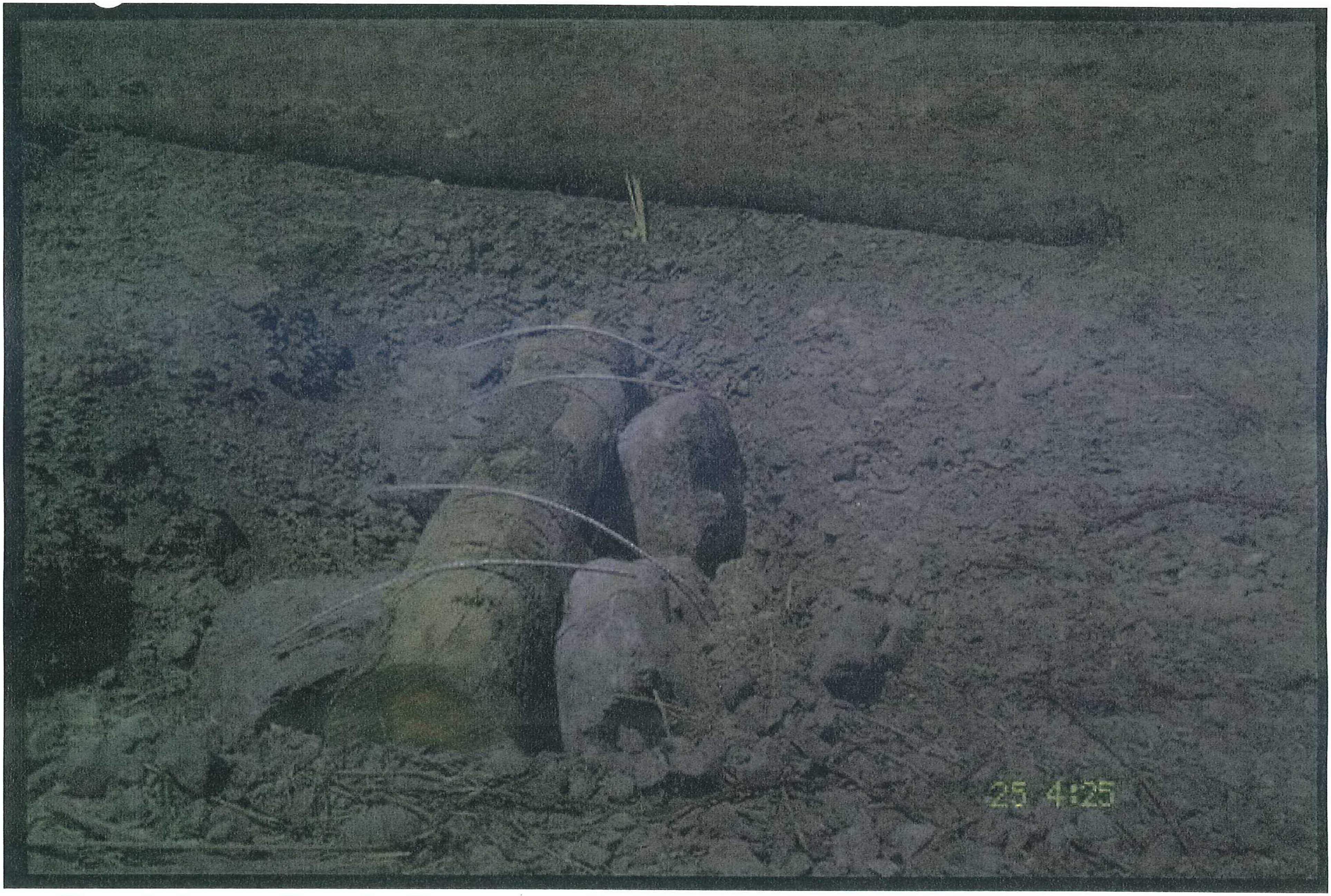


Guadalupe Creek Construction Site Photo - Clearing and Grubbing Cleanup Operation

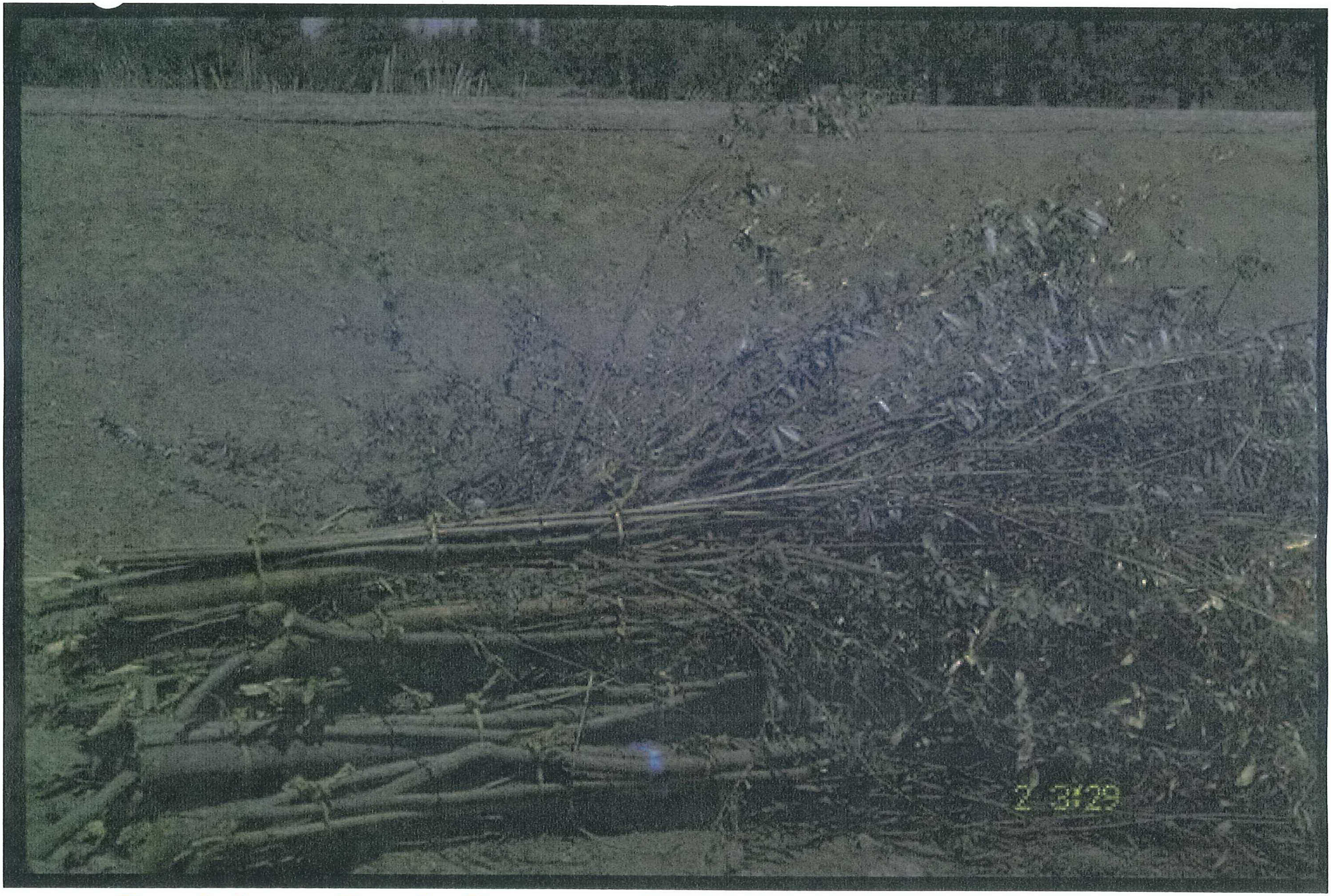
Guadalupe Creek Construction Site Photo - Los Capitancillos Berm Construction Operation



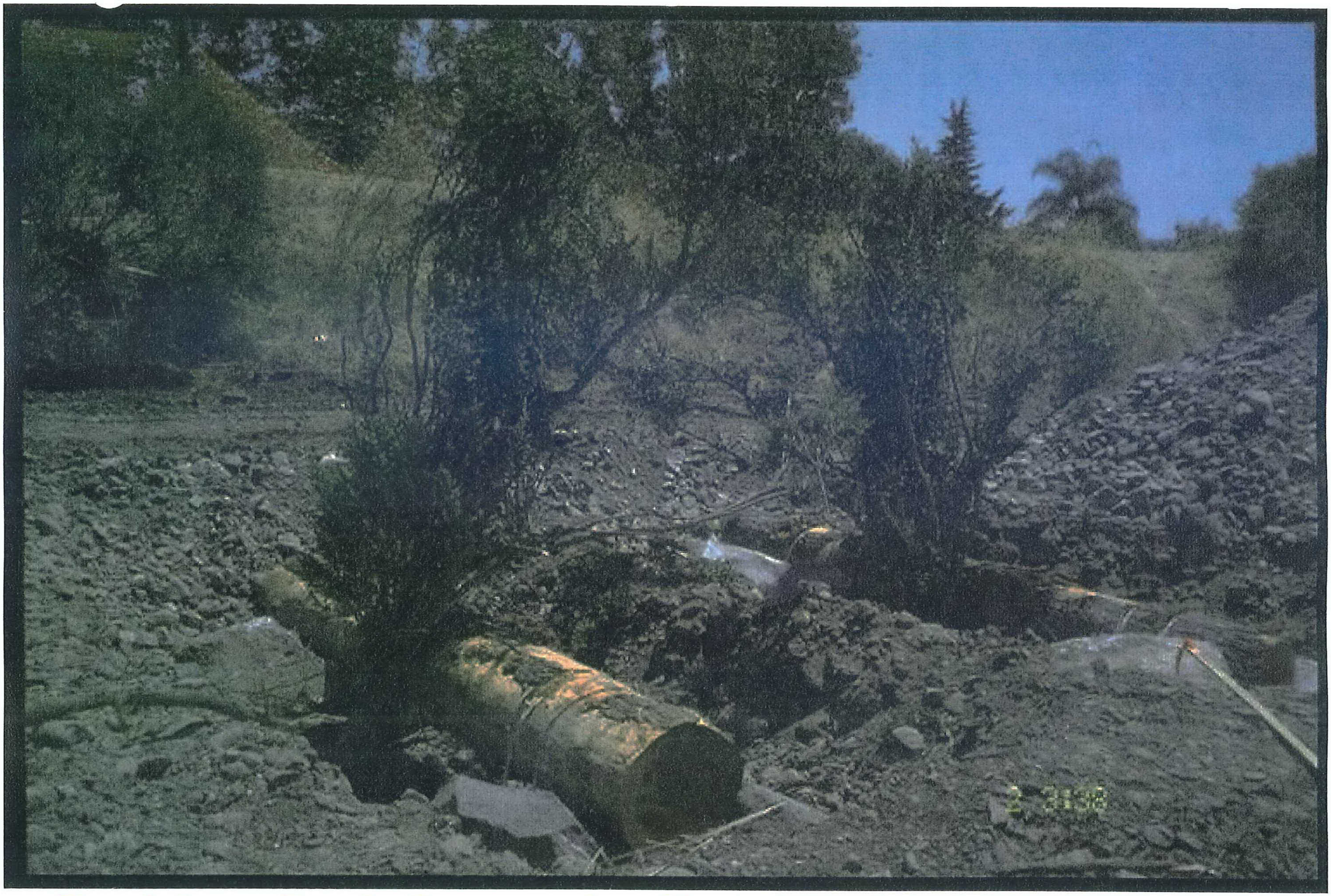
Guadalupe Creek Construction Site Photo - Log Toe Bank Structure



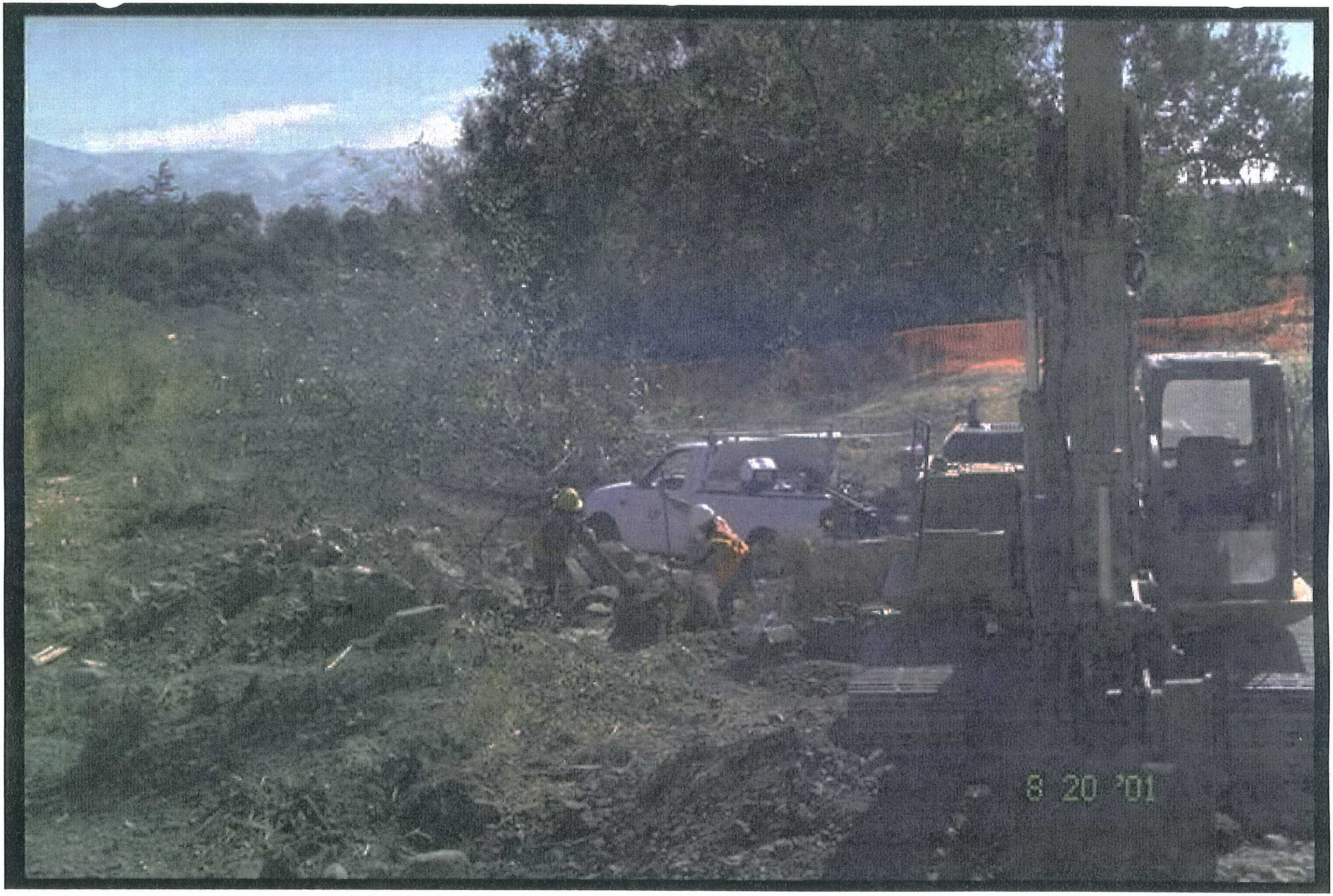
Guadalupe Creek Construction Site Photo - Bar Instream Woody Material Structure



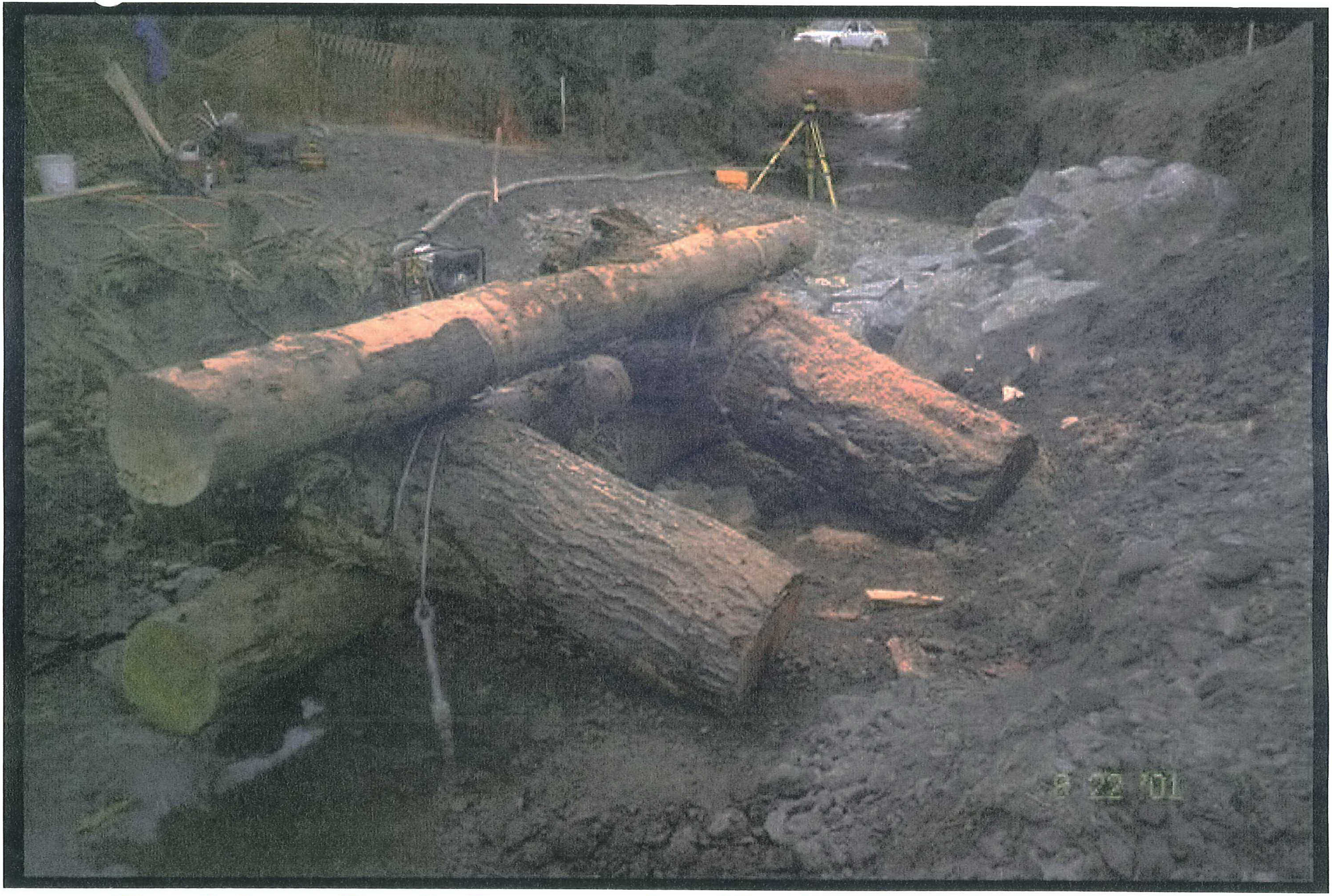
Guadalupe Creek Construction Site Photo - Off Bank Bank Structure



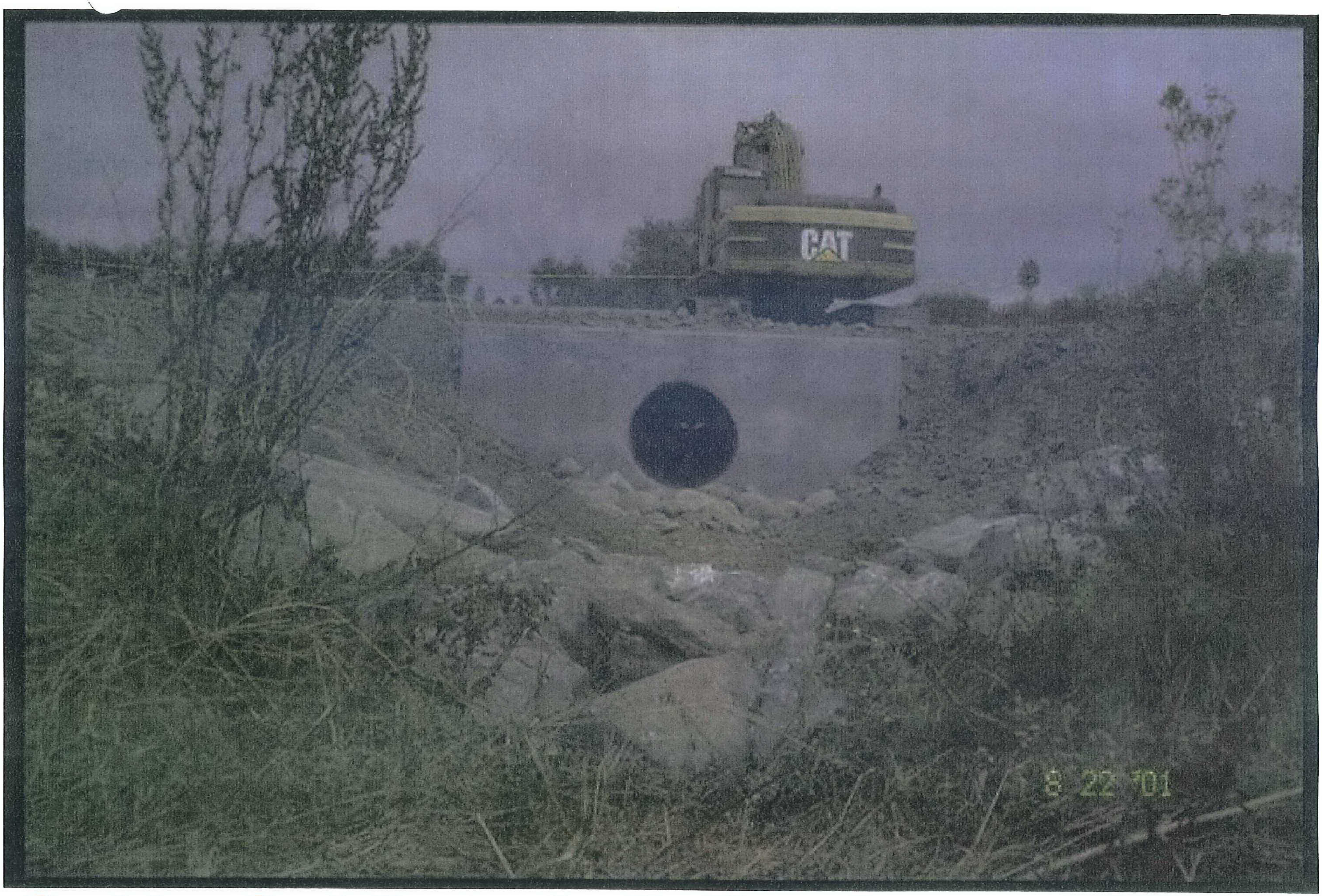
Guadalupe Creek Construction Site Photo - Bar Instream Woody Material and Off Bank Branch Cover



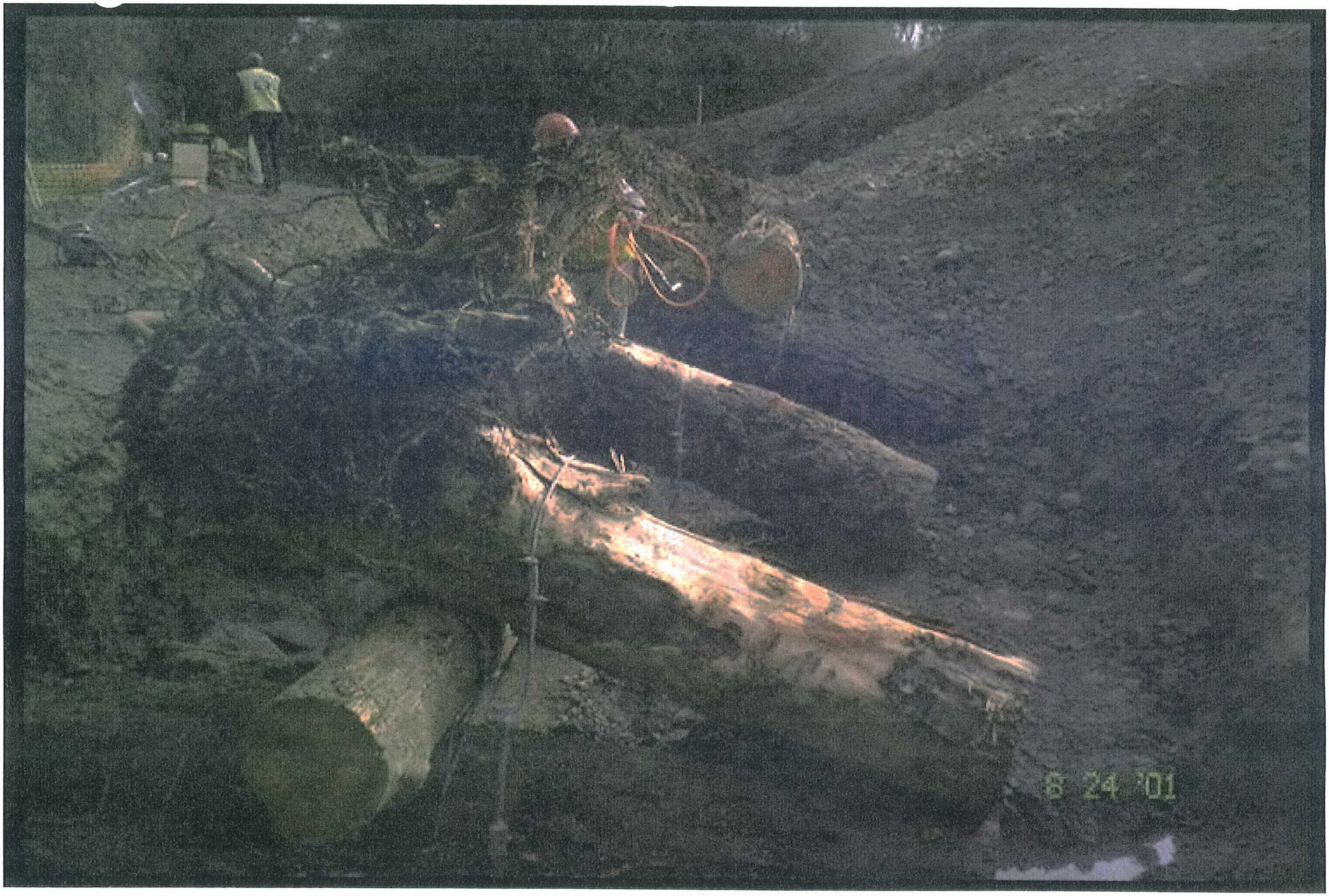
Guadalupe Creek Construction Site Photo - Transplanting Operation



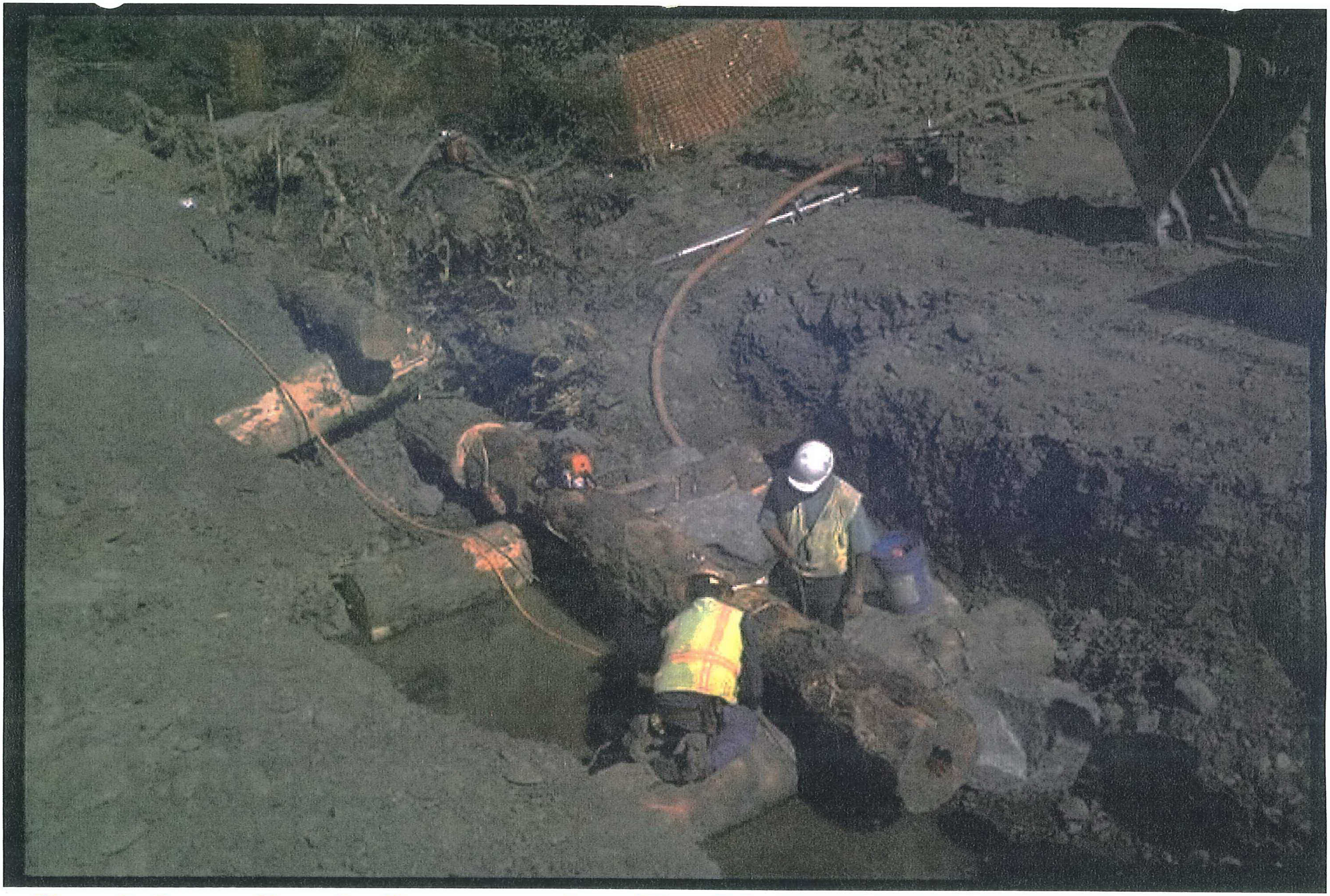
Guadalupe Creek Construction Site Photo - Rootwad Bank Structure Type I



Guadalupe Creek Construction Site Photo - Reconstructed Concrete Headwall on Stormdrain

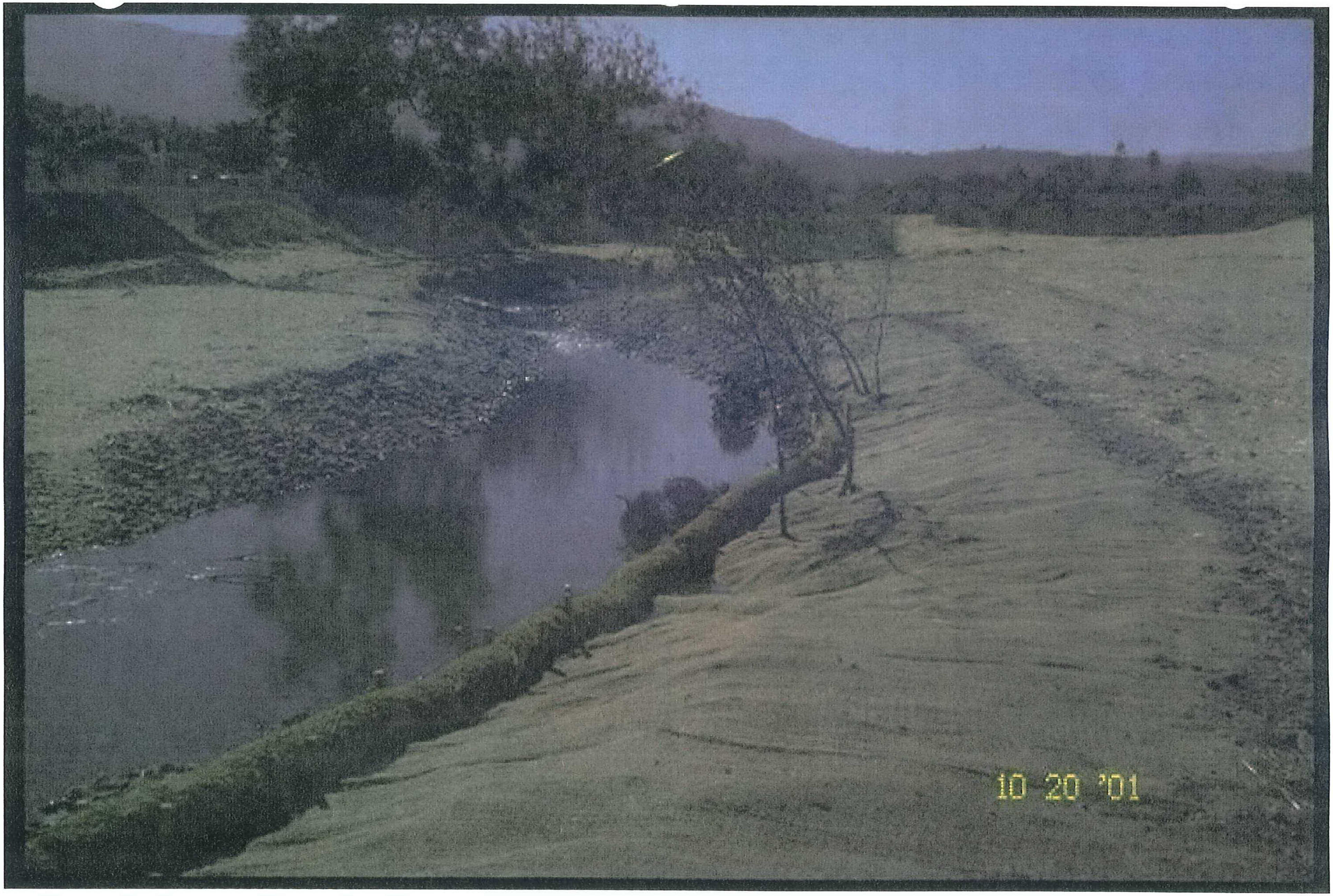


Guadalupe Creek Construction Site Photo - Rootwad Bank Structure



Guadalupe Creek Construction Site Photo - Installation of Rootwad Bank Structure

Guadalupe Creek Construction Site Photo - Completed Channel Realignment Section



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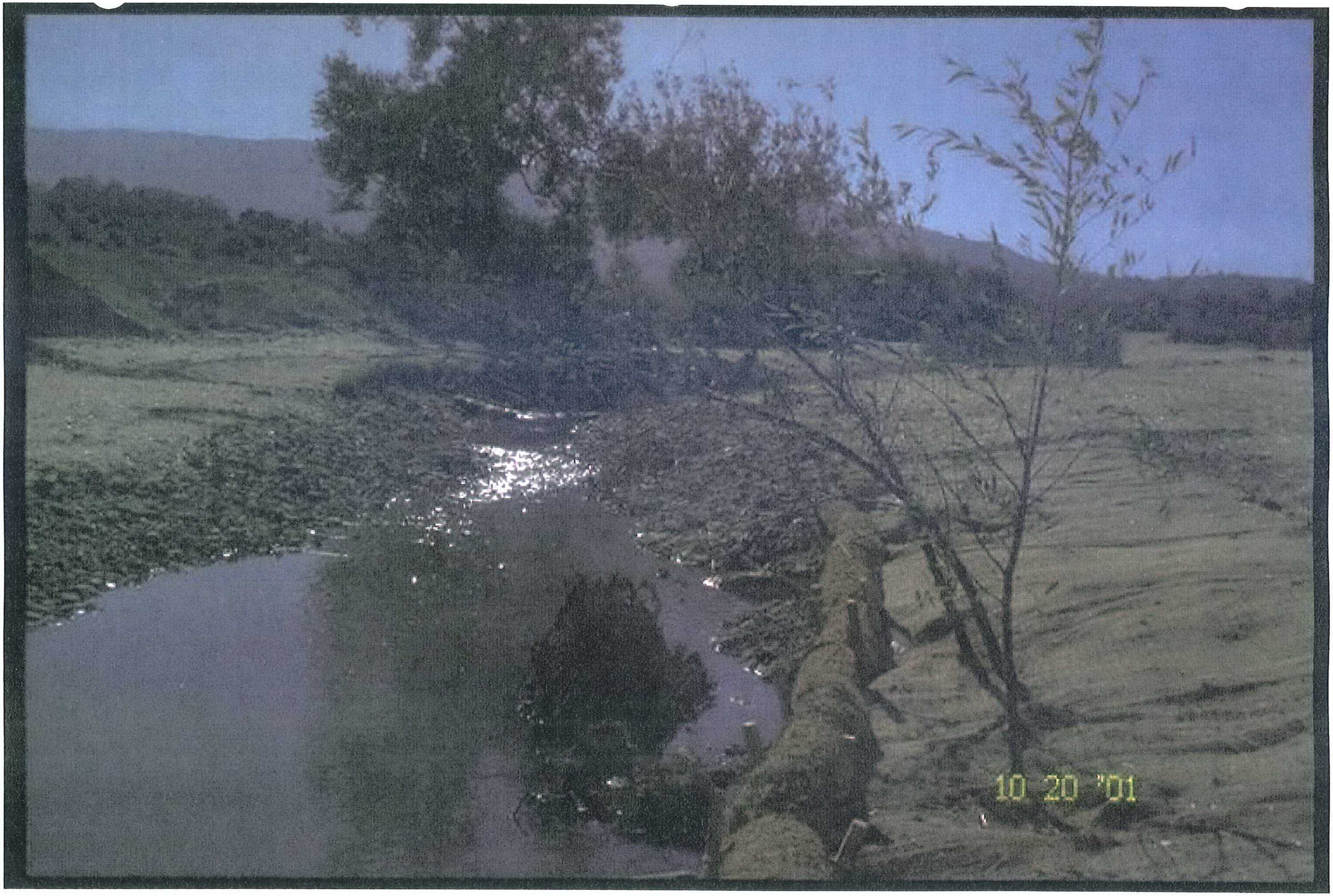
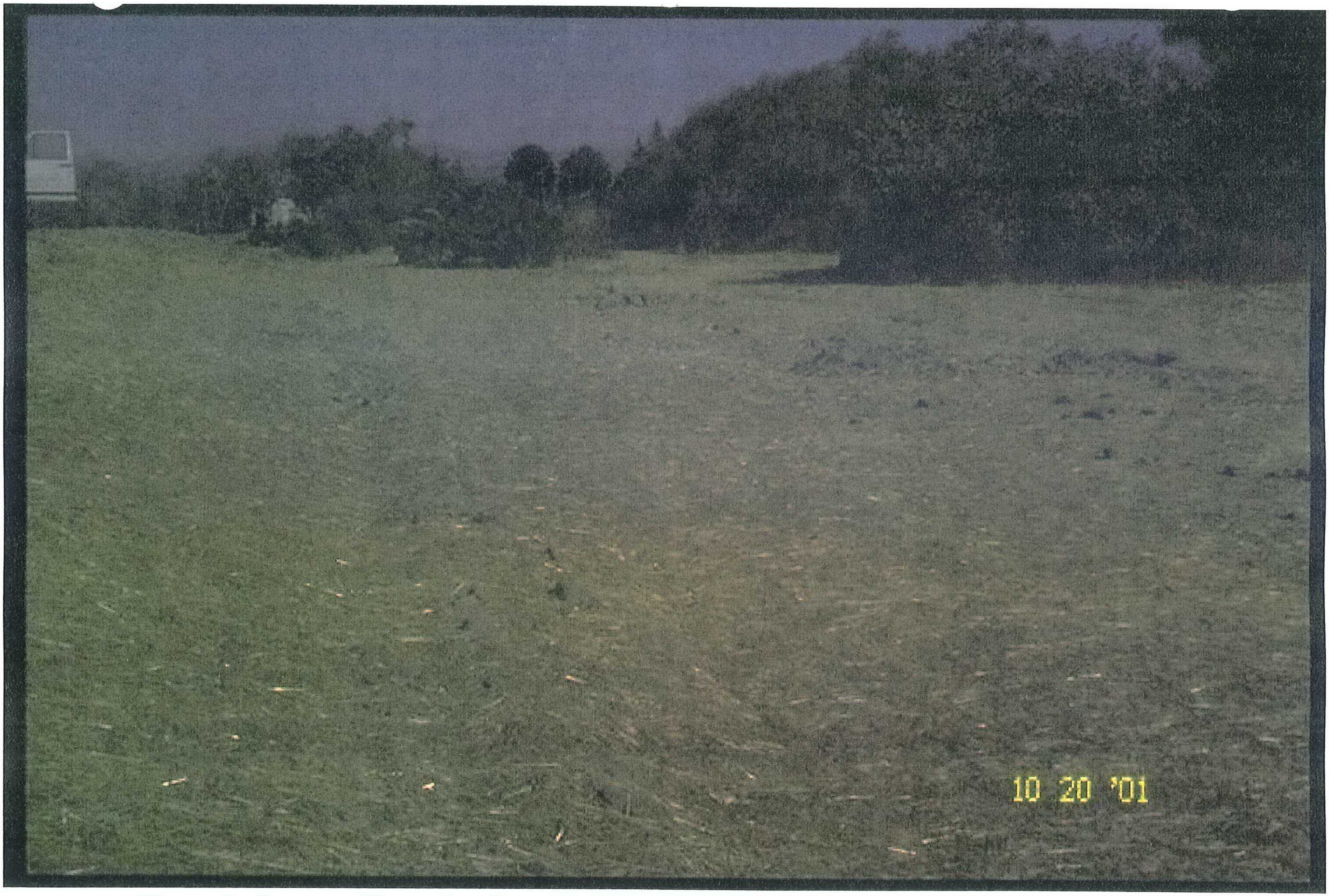
Guadalupe Creek Construction Site Photo - Erosion Control Fabric and Coir Log Placement



Guadalupe Creek Construction Site Photo - Transplanted Willow at Channel Realignment section

Guadalupe Creek Construction Site Photo - Erosion Control Fabric and Coir Log Placement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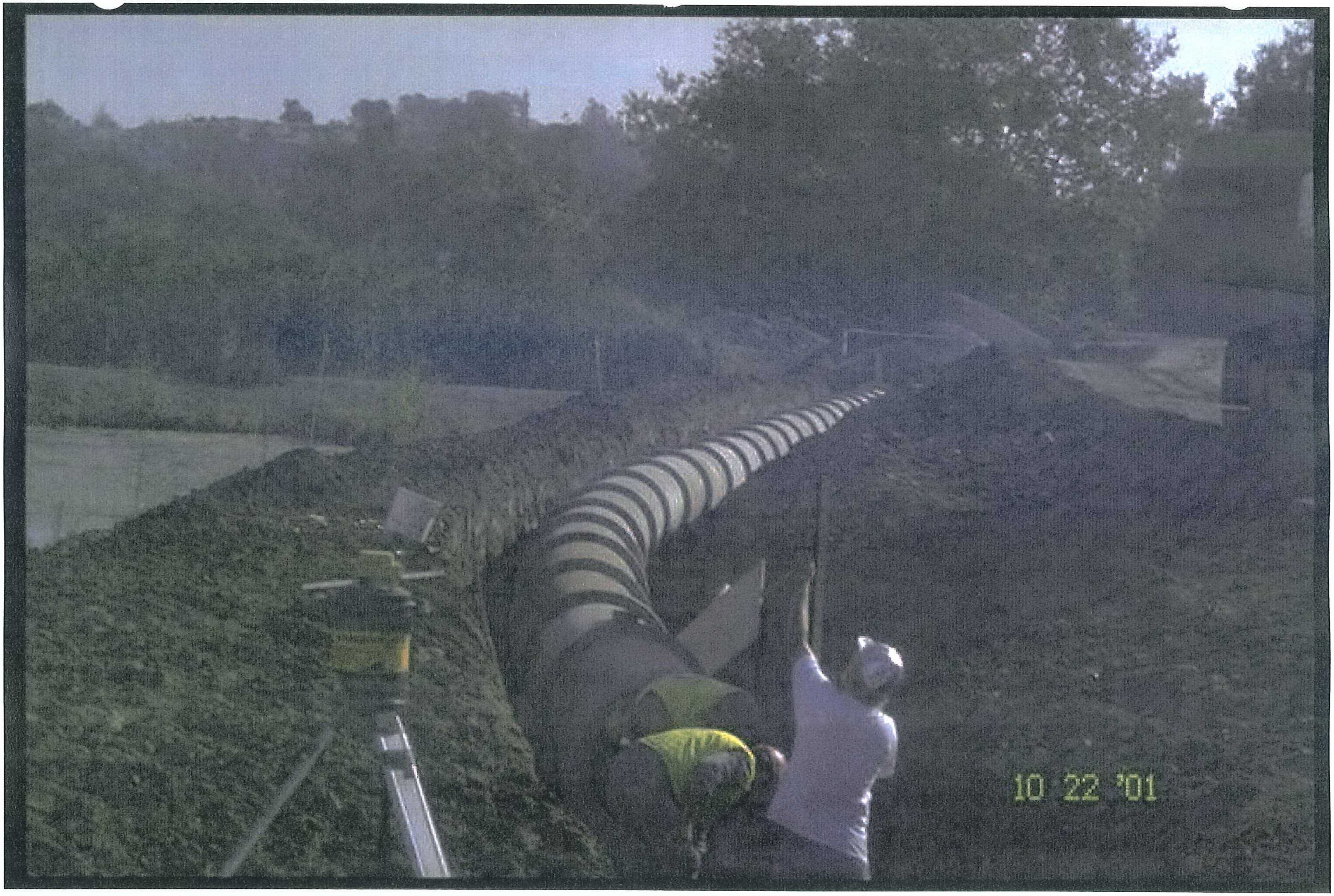
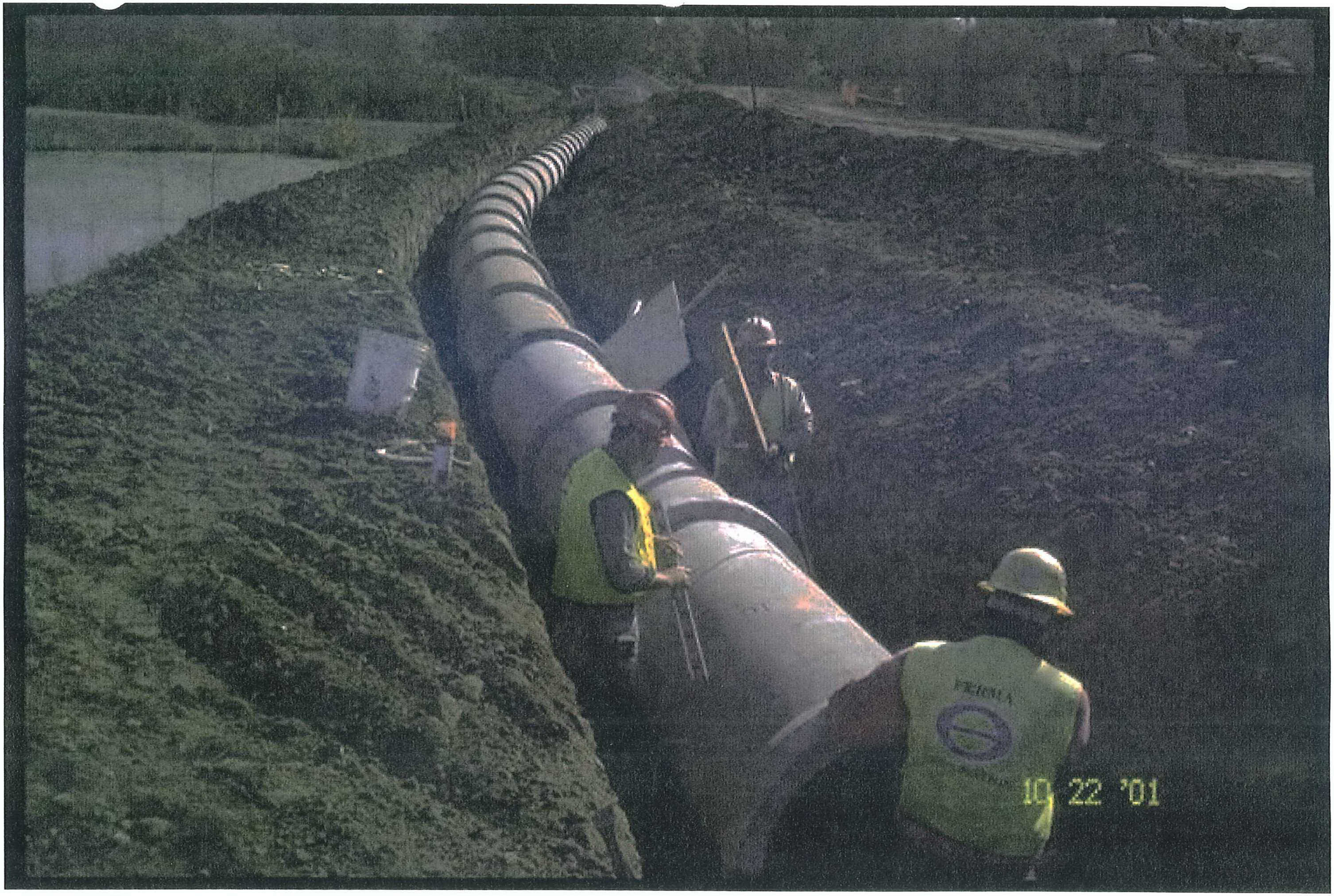
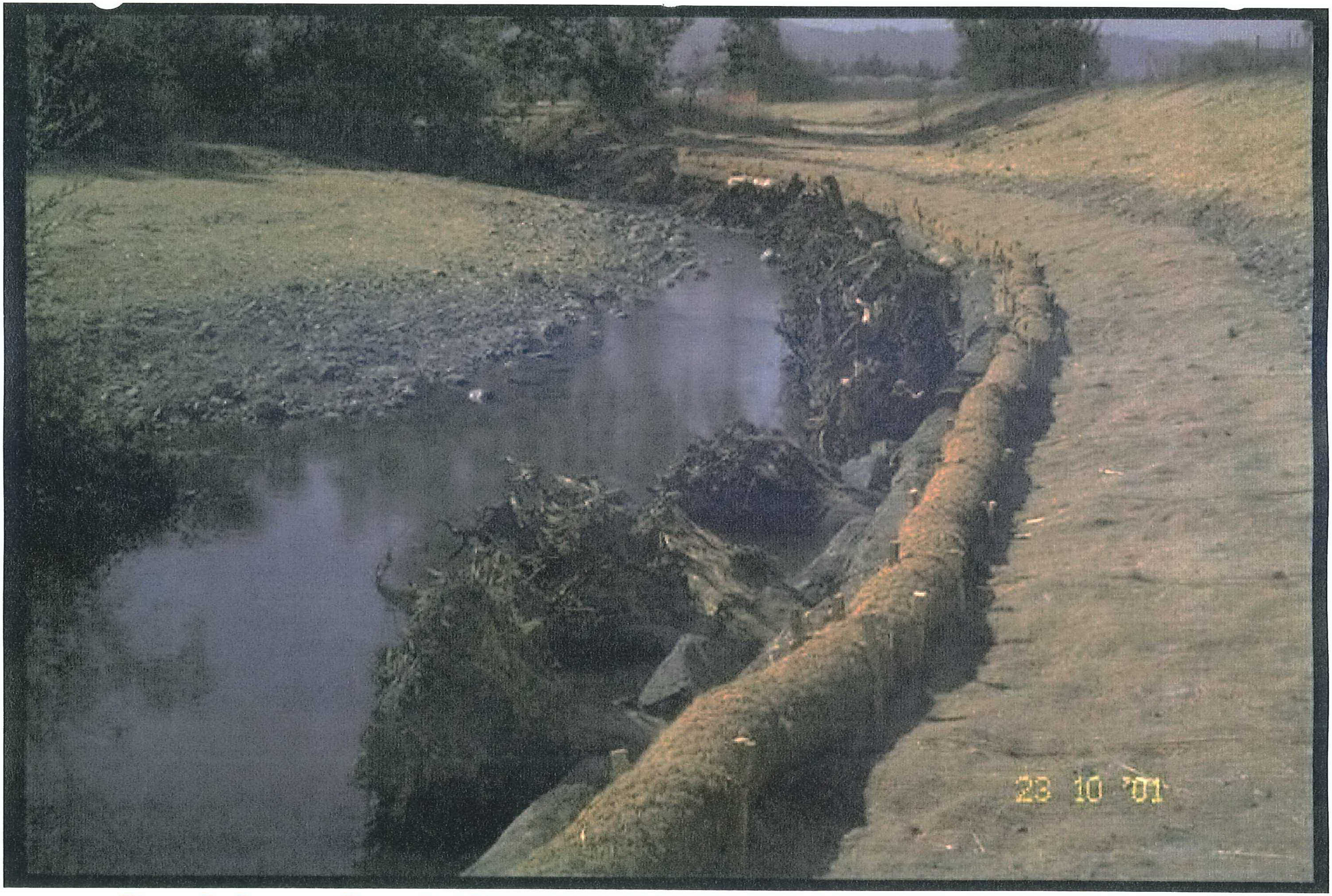
Guadalupe Creek Construction Site Photo - Strawed and Hydroseeded Surface



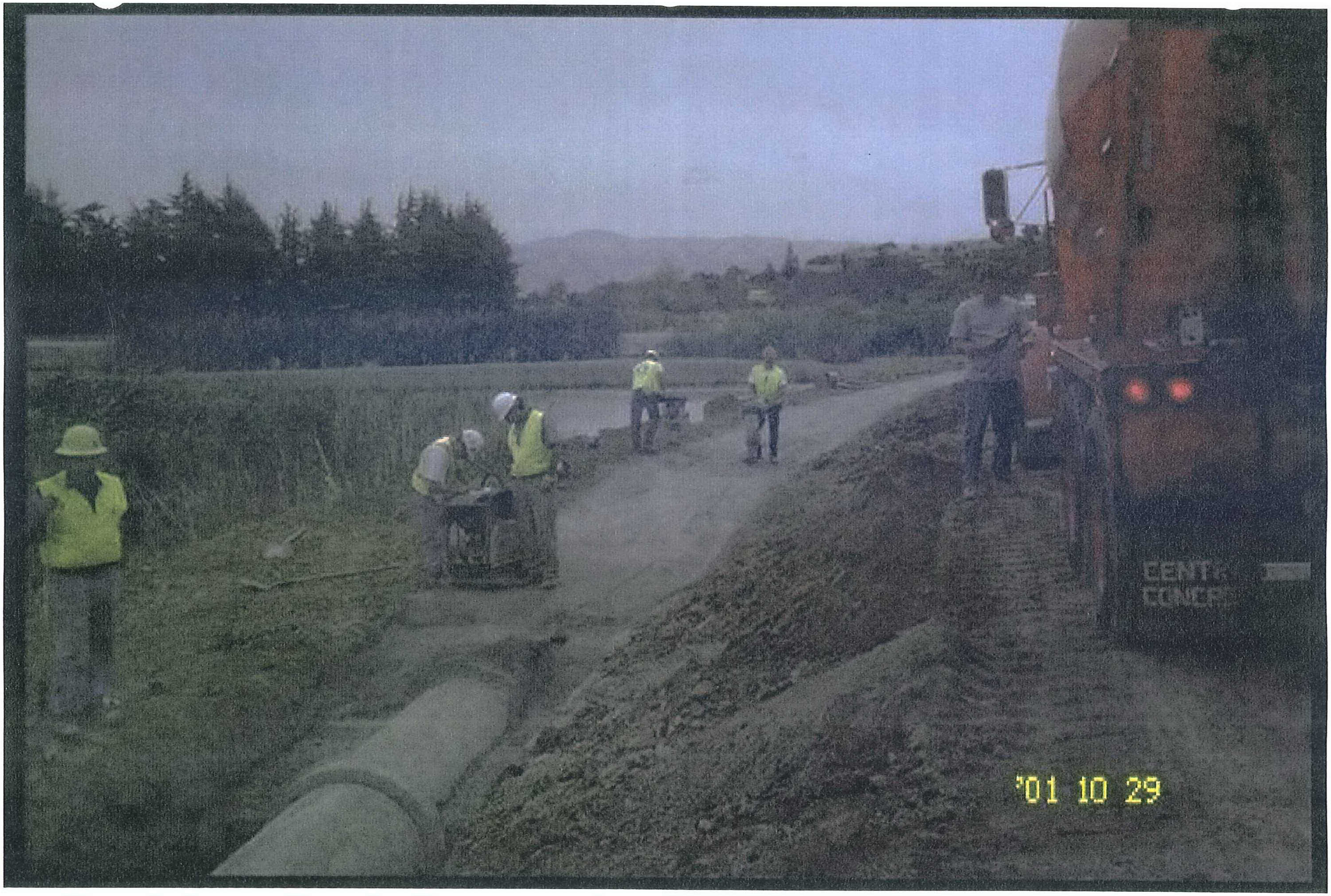
Guadalupe Creek Construction Site Photo - Mixing Channel Installation



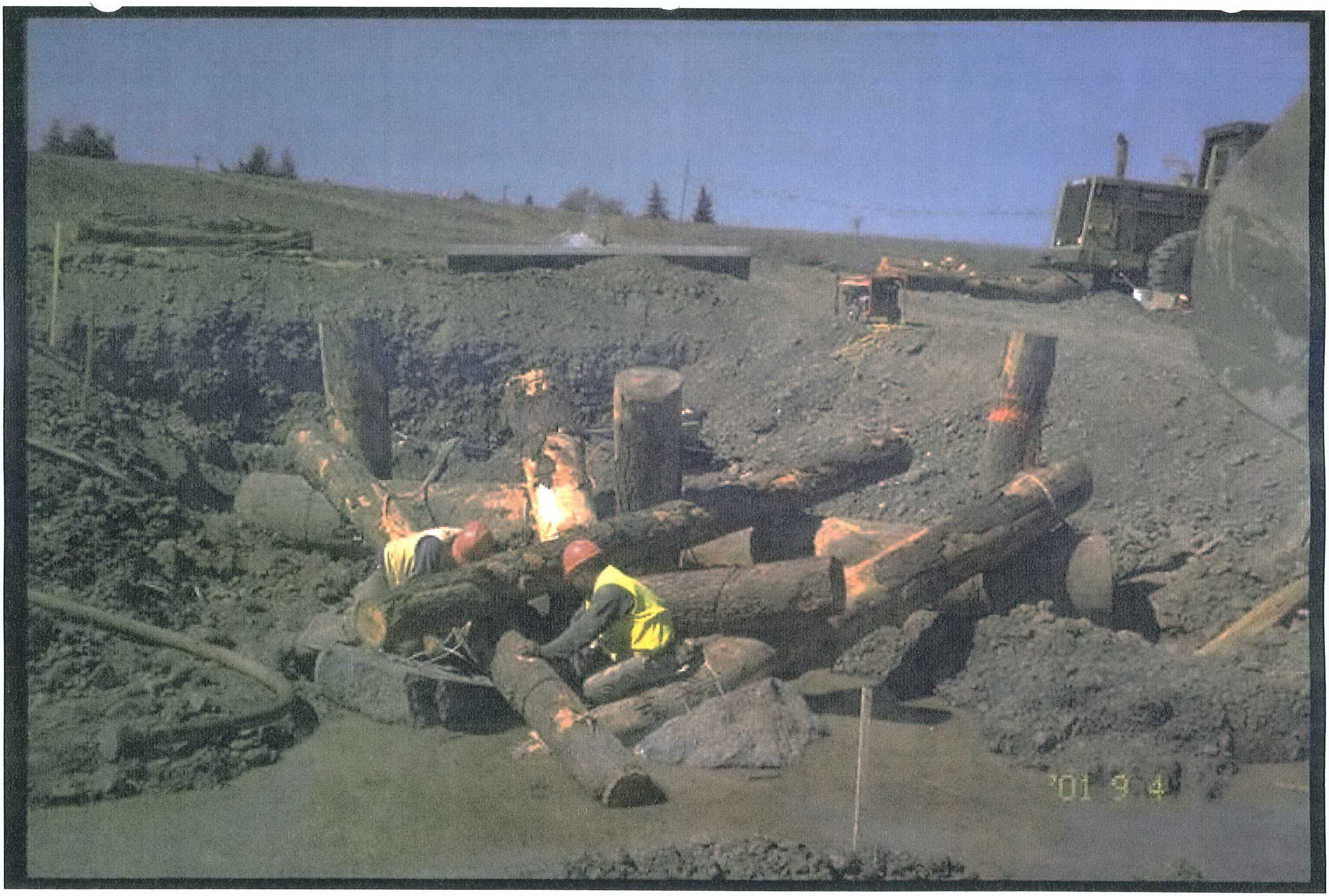
Guadalupe Creek Construction Site Photo - Mixing Channel Installation



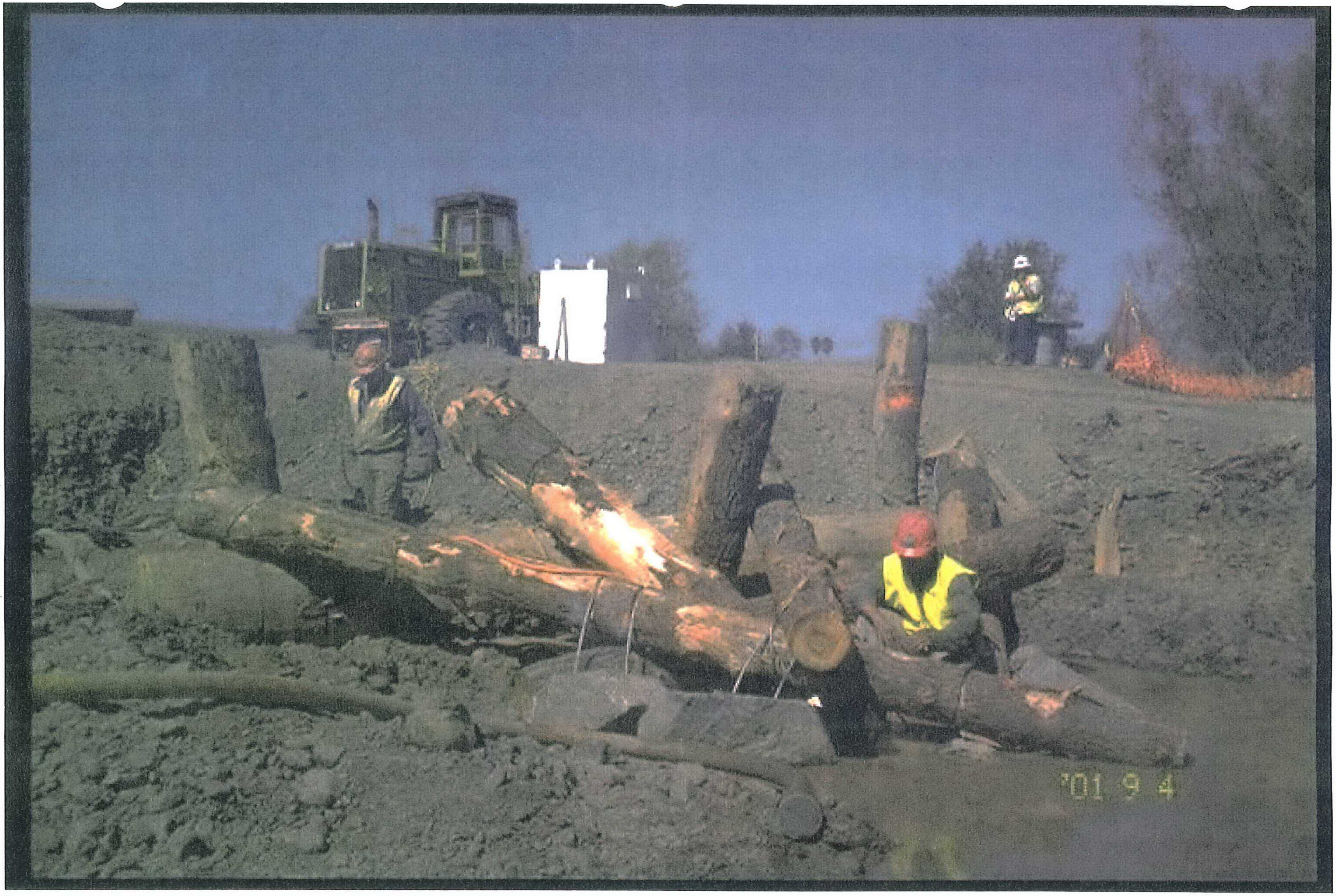
Guadalupe Creek Construction Site Photo - Rootwad Bank Structure



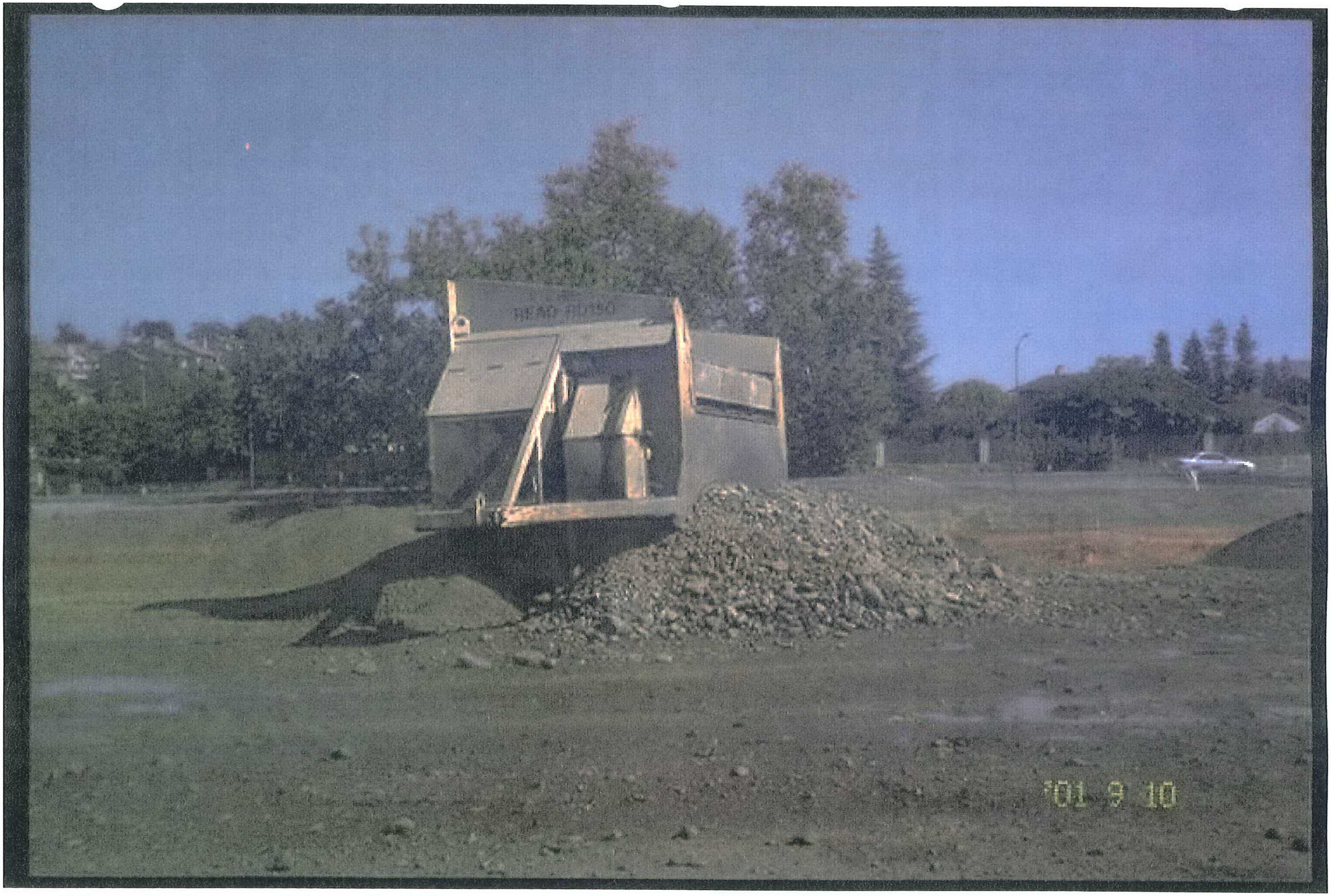
Guadalupe Creek Construction Site Photo - Mixing Channel and Maintenance Road Installation



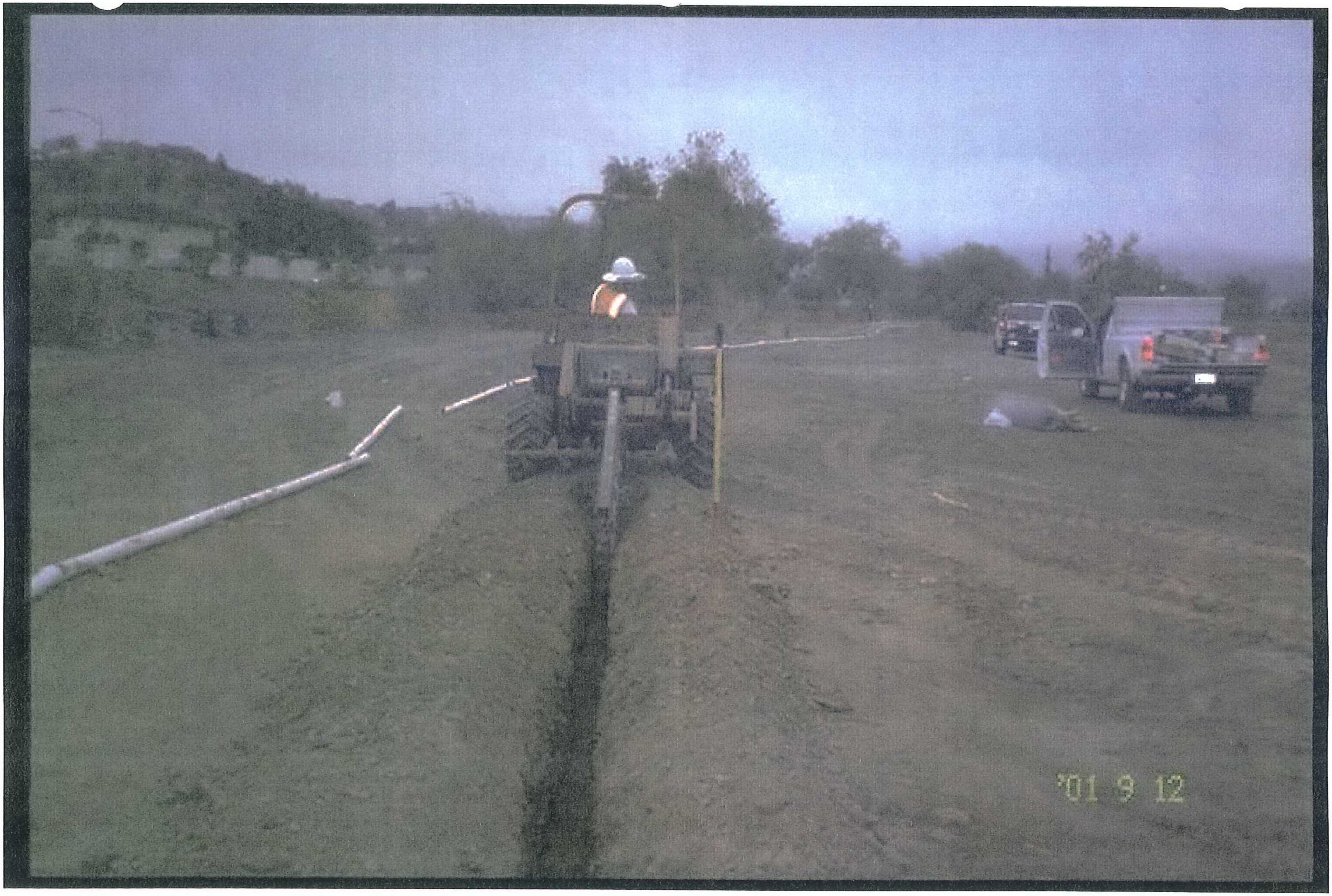
Guadalupe Creek Construction Site Photo - Debris Jam Installation



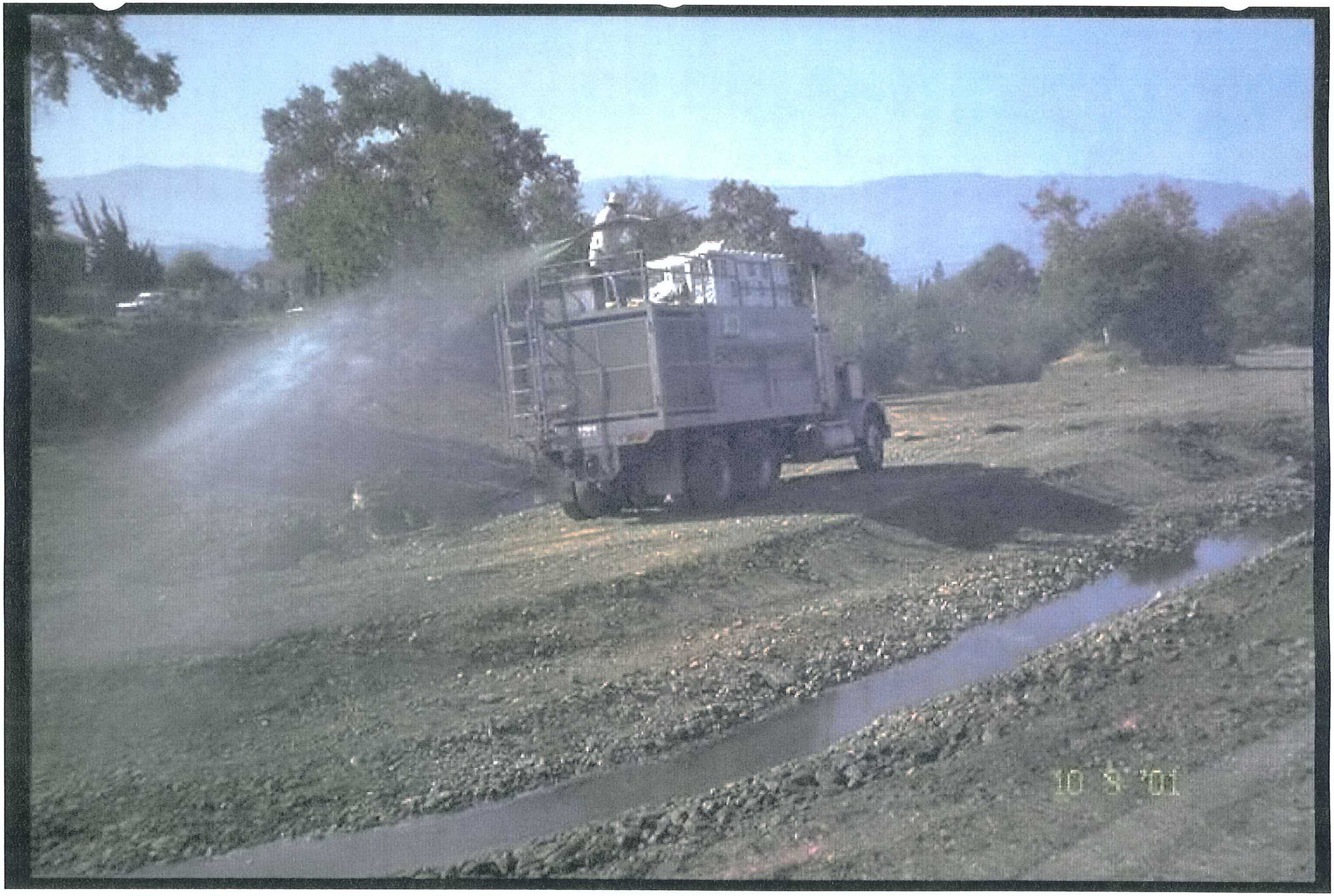
Guadalupe Creek Construction Site Photo - Debris Jam Installation



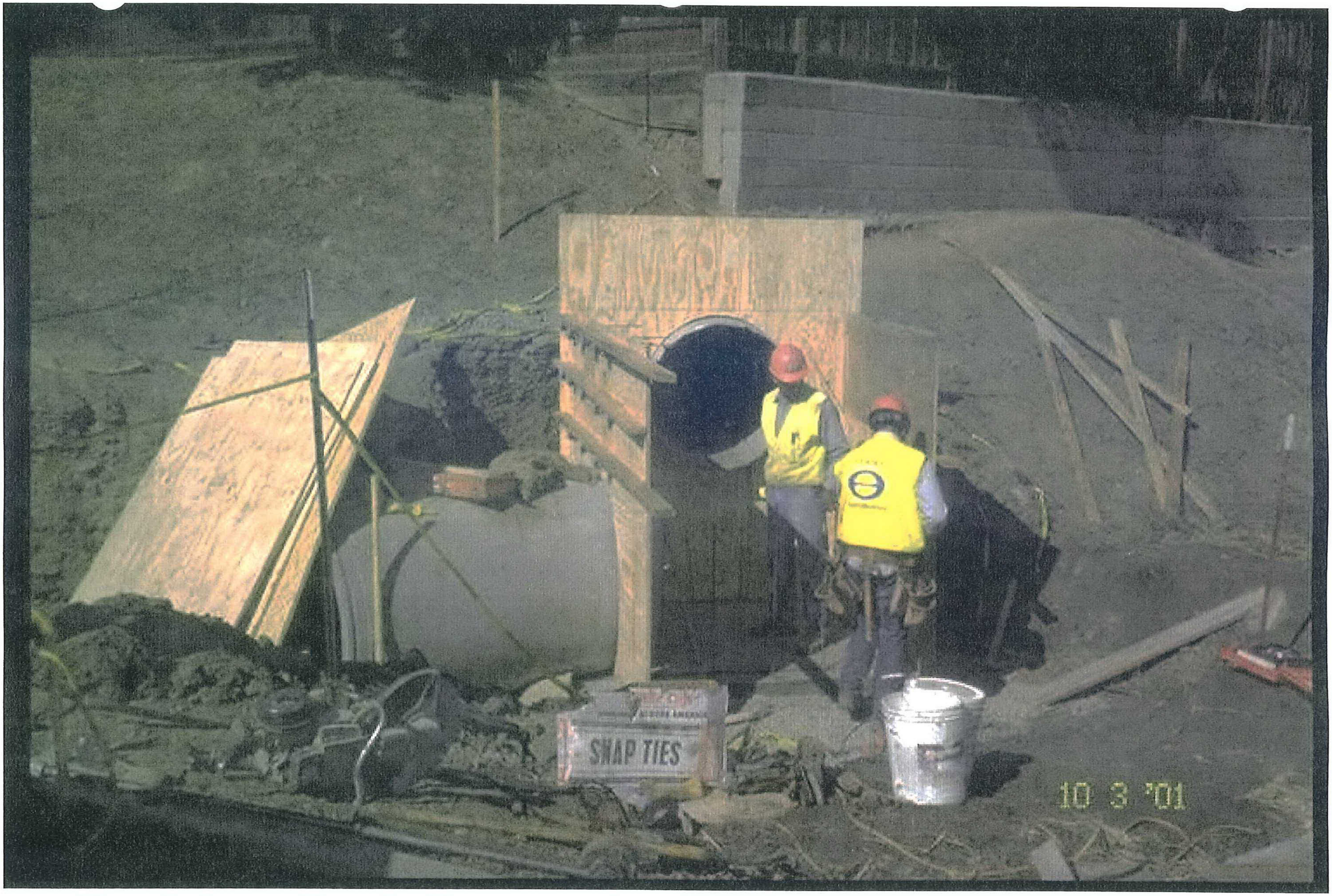
Guadalupe Creek Construction Site Photo - Streambed Fill Sieve



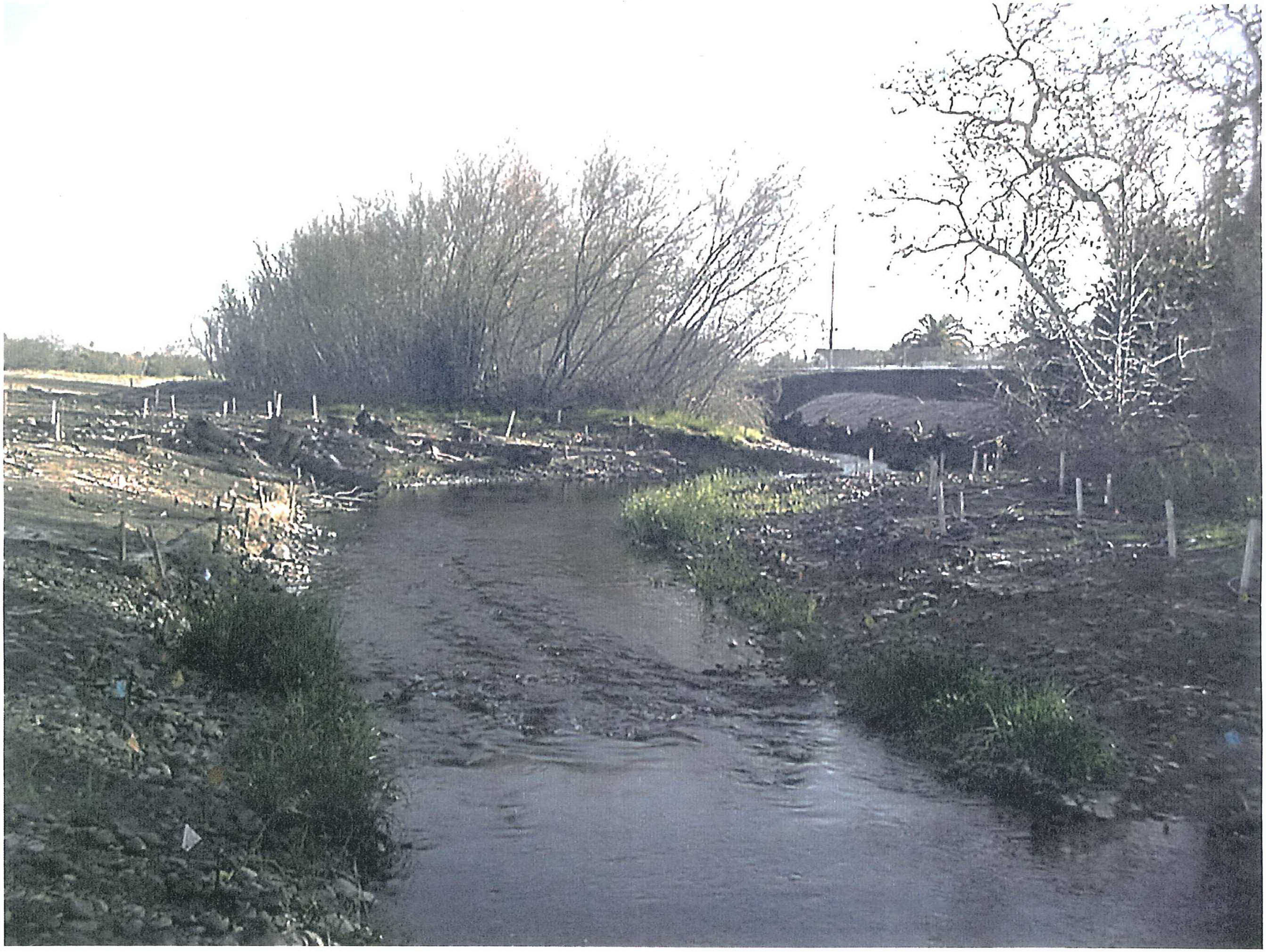
Guadalupe Creek Construction Site Photo - Irrigation Mainline Installation



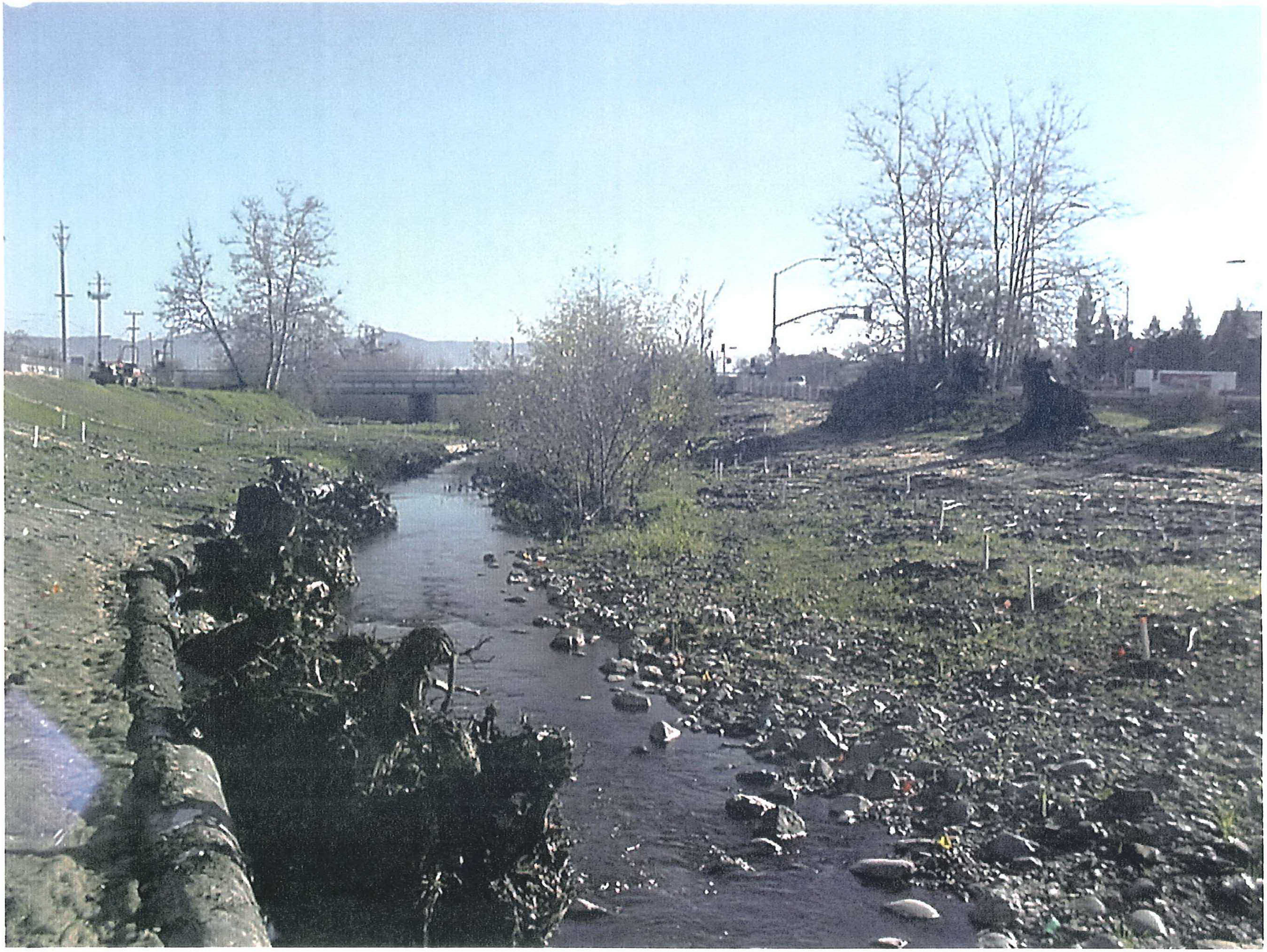
Guadalupe Creek Construction Site Photo - Hydroseeding Operation



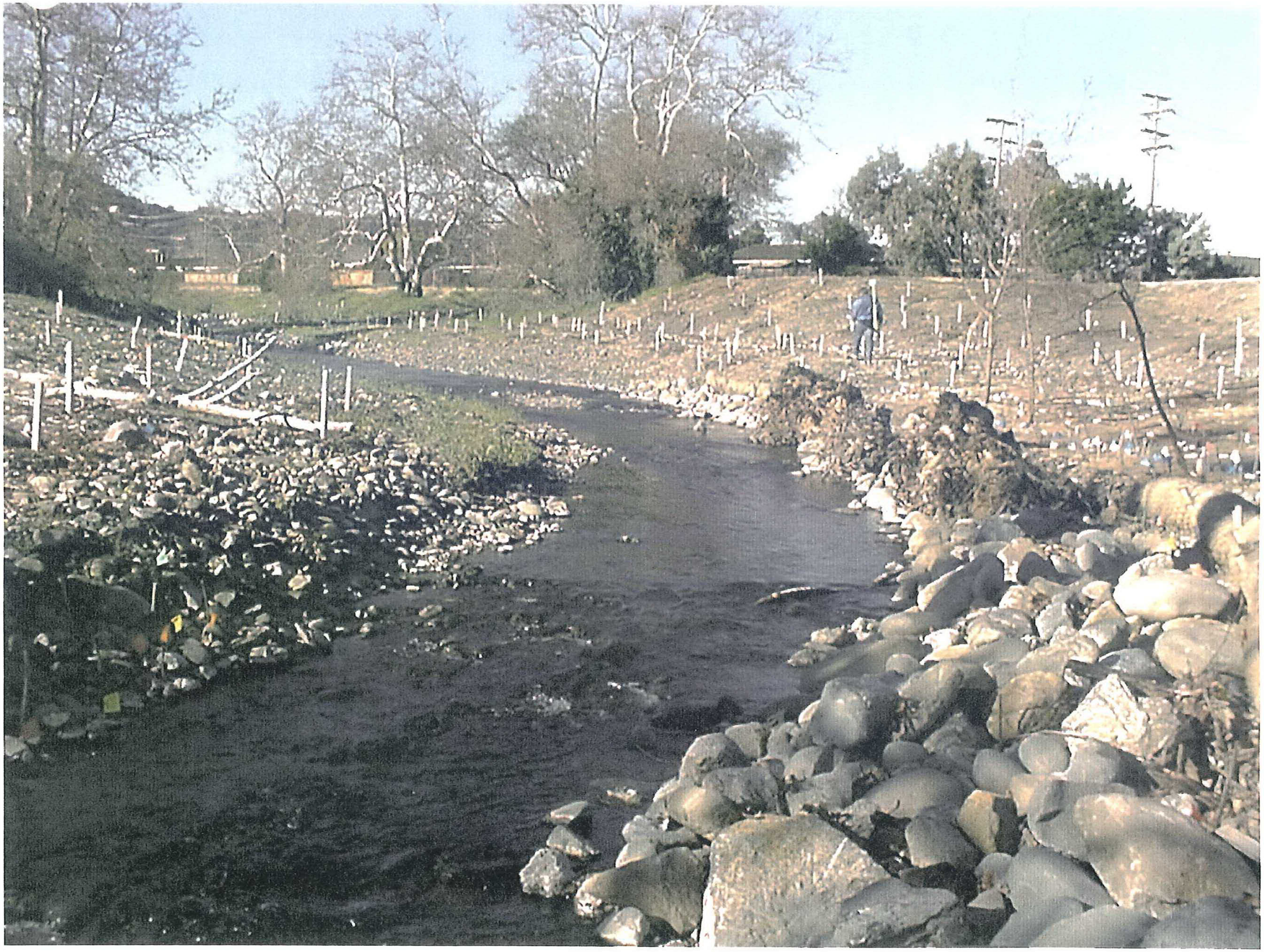
Guadalupe Creek Construction Site Photo - Junction Structure Installation



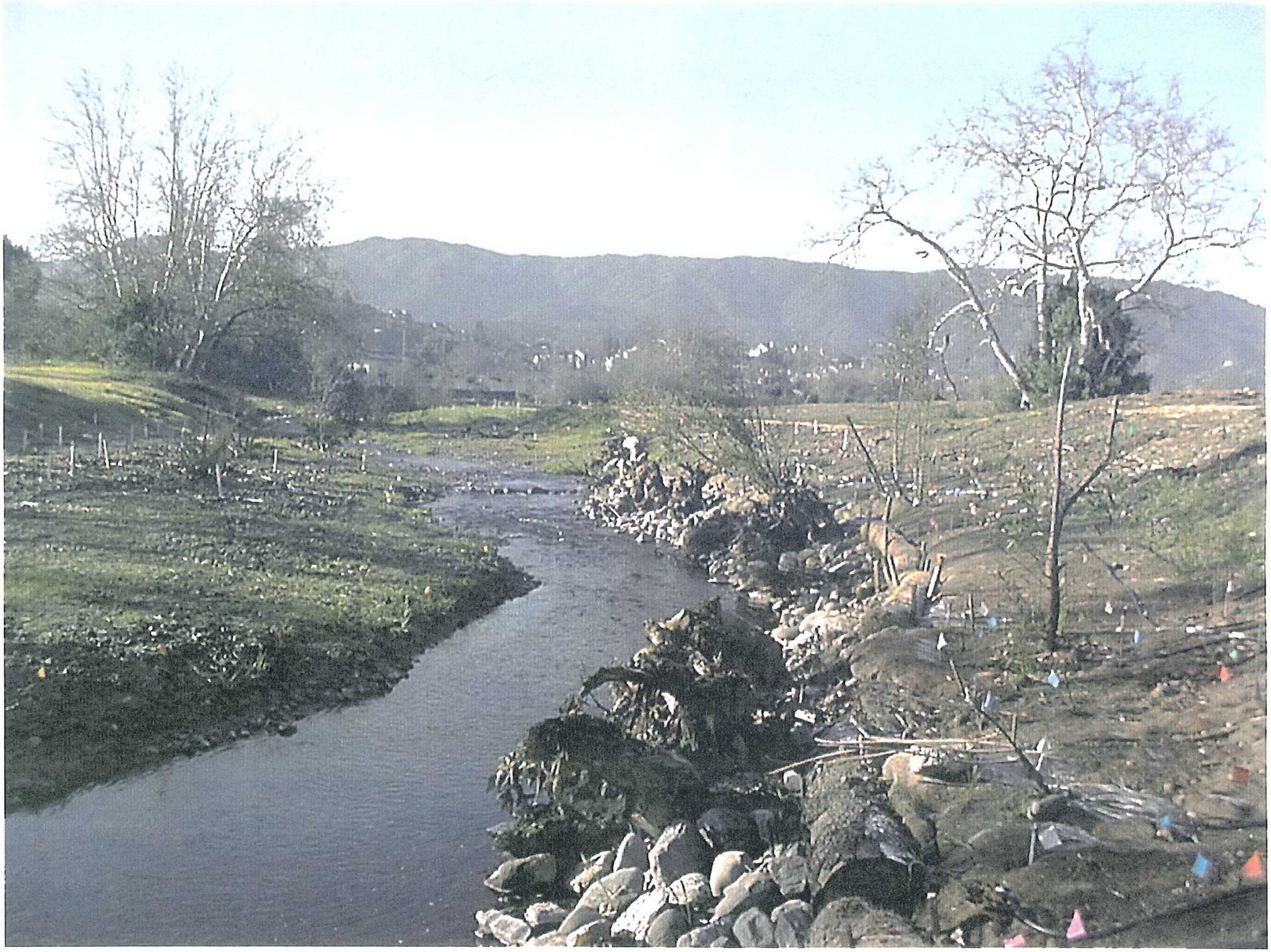
Post Construction Channel Realignment Section



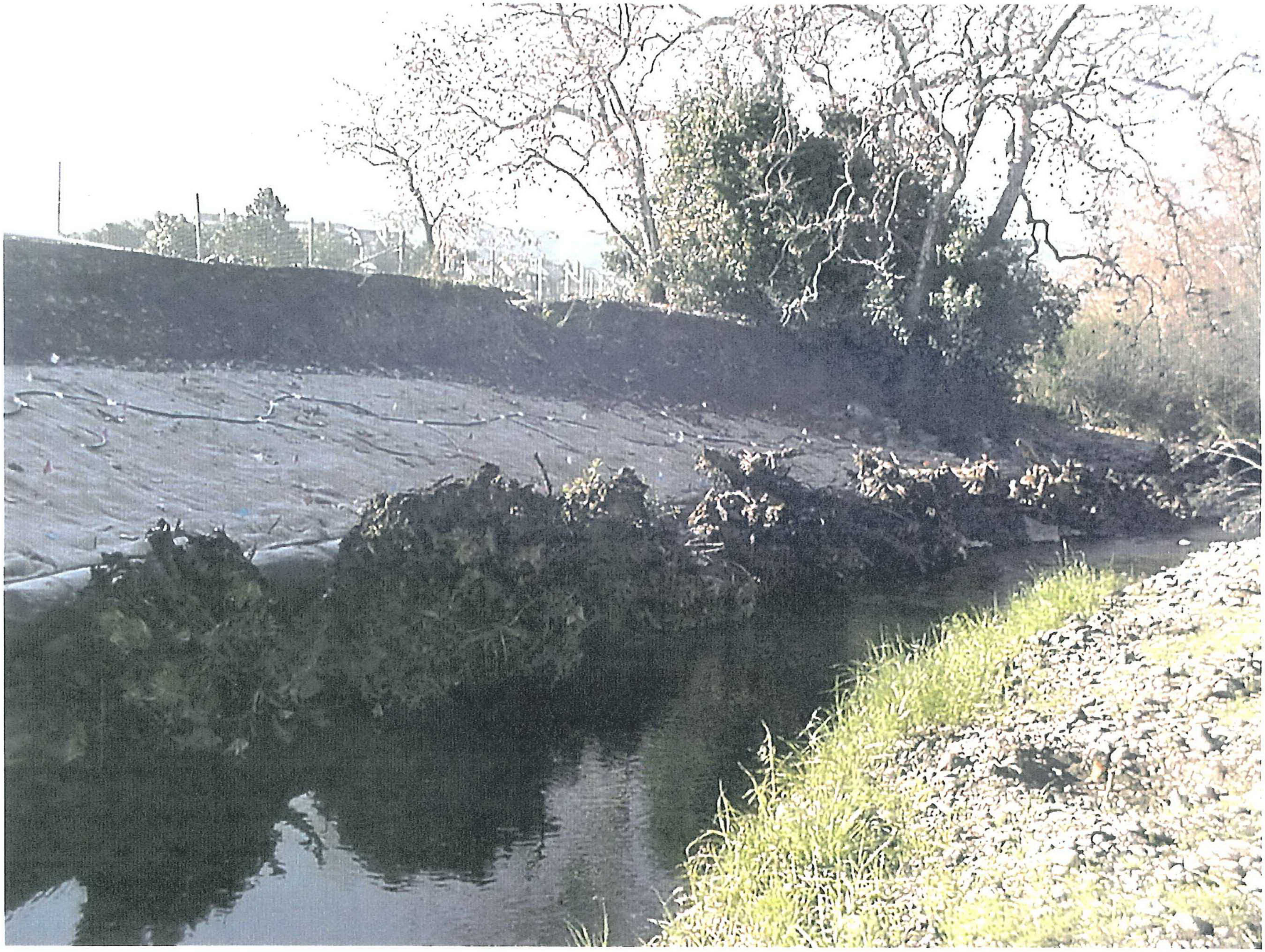
Post Construction Bank Protection Site B



Post Construction Bank Protection Site A



Post Construction Bank Protection Site



Post Construction Crib Wall

APPENDIX C

- Guadalupe Creek Restoration Project Dewatering and Fish Relocation Report

Report To: Guadalupe Creek Restoration Project Team
(Final) Update: 11-September-2001
From: Jae Abel, SCVWD Biologist
David Salsbery, SCVWD Biologist
Re: (Pre-)Construction Related Fish Relocation Operations

In fulfillment of Best Management Practices and permit requirements of the Guadalupe Creek Restoration Project, fish relocation efforts were conducted in the reach of stream between Masson Diversion Dam and Almaden Expressway. This reach was dewatered in advance of project construction activities by diverting flow at Masson Dam out of the natural channel at that point to effect dryback conditions downstream. Coincident with the dryback, native fishes were targeted for salvage clearing and relocation with special attention to be given to any salmonids owing to the possibility of encountering federally listed steelhead (*Oncorhynchus mykiss*) in the affected stream reaches.

Between 05-June-2001 and 09-June-2001 flows to the project reach were cut back at the Masson Diversion Dam in approximately 0.5cfs/day increments. On 09-June-2001 at approximately 02:00hrs the flow passing Masson Dam was terminated. There had been continuous but diminishing flow throughout the project reach until the last day when by daybreak, dryback to isolated pools and intermittent riffles was effected by the cessation of releases past the Masson site. A few isolated pools (3) and a few shorter reaches (2) of shallow riffles remained. These are presumably fed by groundwater seepage primarily from the percolation ponds adjacent to the project reach.

During the gradual turn down of the flow, fish capture efforts were undertaken. Each day between 05-June and 08-June, sub-reaches of the project were electrofished by 1-2 collection teams to remove native fishes for transport to permanent water. On 09-June-2001, the entire project reach was traversed for collection. This was possible owing to the intermittent condition of the stream. The previous days' collection efforts had significantly depleted the total numbers of fishes remaining in the project reach prior to dryback conditions being fully expressed. Additionally, a "mop-up" collection effort was conducted on 15-June-2001 in the remaining intermittent pools and riffles. Additional "mop-up" exercises were conducted on 13-August-2001 and 21-August-2001 in the three deep pools and two riffles of more permanent water toward the middle of the project reach and in the pool immediately downstream of Masson Diversion. The final efforts were executed when the construction contractor determined the need to pump out/dewater those points during the course of construction.

Collection teams, consisting of at least two netters and a live-car manager, were deployed with each electrofisher. An additional individual accompanied the team positioned out of the channel to operate a live-well shuttle to the staging/fish transport area. One or two capture teams worked each day. As fish were netted, they were placed in the floating live-car for holding. Periodically, captured specimens were transferred to buckets to be portaged out of the channel and deposited in the live-well of the shuttle vehicle tracking the collection team along the levee top. At appropriate breaks, the shuttle vehicle would deliver the latest captures to the staging area for deposit in the fish transport trailer. Fish were counted and sorted as they were moved from the live-well shuttle vehicles to the fish transport trailer tank. One or two persons were stationed at the transport trailer to maintain continuous monitoring and operation of appropriate trailer equipment and conduct the fish sorting. Native fish were counted by estimated age-size class as they were introduced to the transport trailer. No other quantitative measurements were taken. A floating live car, maintained in the transport trailer tank was used to isolate salmonids. They were held separately for the permit-qualified biologists (Salsbery, Abel, Hernandez) to confirm migration status (i.e any adults and smolts vs. resident trout and young of year) prior to transport. Exotic species were similarly censussed by species and estimated age-size class and placed in a separate aerated live well until disposed. During the August efforts, site conditions and limited access due to construction activities precluded the use of the transport trailer but fish were successfully moved using the aerated live-wells in those relatively short exercises.

Environmental conditions were very conducive to successful fish capture and transport during the entire exercise. Stream temperatures within the project reach stayed within a preferred temperature range for the native fish species including salmonids (15-17°C, via handheld thermometer) during collection activities. Post-capture environmental management consisted of maintaining reviving fish in a screened, floating live-car basket continuously submerged in native stream flow out of contact with the electrofisher charge zone. Bucket transfer from the live car was rapid, generally less than 1 minute from removal from the stream to placement into a live-well located in the shuttle vehicle just out of the channel. Live-wells in the shuttle vehicles consisted of 150-200 qt. insulated coolers and were equipped with a continuously operating pump recirculating water through an aeration spray head. Oxygen concentration and temperature were periodically checked in the live-wells using a hand-held, multi-probe meter. Live-well dissolved oxygen concentrations were typically at or near saturation values and temperatures rose only marginally during the course of a day's activities. The fish transport trailer consists of a 600 gallon tank with onboard recirculating pumps, separate circulation circuit through a chiller for temperature management and auxiliary oxygenation via compressed oxygen. The twin compartments of the trailer tank had continuously operated dissolved oxygen sensors linked to a high-low alarm controller. All live-wells and the trailer used native stream water filled each morning prior to the start of the day's collection activities. The transport trailer tank temperature was set to maintain controlled temperature values and did not vary more than approximately 1-2°C from morning ambient conditions in the stream. No mechanical or other equipment failures were reported.

In the above described sequencing of dryback and coincident collection activities, we could effect a controlled and generally manageable pace of work to maximize survivorship of native fishes collected. The depletion passes conducted during the days where the stream flow was being cut back in advance of the final dryback most certainly reduced the overall numbers of fishes subject to stranding. In fact, the only minor slip occurred when one of the shuttle drivers, for some unknown reason, did not deposit the bucket-transferred fish to the live-well in the shuttle vehicle. Instead, as captures were portaged out of the channel, the salmonids (2), were separated to their own bucket while the other species (109 specimens) were concentrated in another bucket. The salmonids survived, the other fish did not. It appears a single shuttle run was operated in this faulty manner. That shuttle driver was subsequently reassigned alternate duty. Exclusive of that incident, the clearing/salvage operation proceeded in an orderly manner with no other mishaps.

Fish were captured throughout the project reach. No unexpected species were encountered. The composition of native and exotic fish included only species that have been previously recorded in the watershed and stream. An anecdotal observation made during the operation was that there seemed to be reduced numbers of the exotic species encountered as the capture efforts moved upstream. This may be related to the proximity to Lake Almaden which probably is acting as a significant refugia for non-native fish in the system. Over 3200 native fish were successfully relocated alive to permanent water and over 160 exotic animals were removed from the system. A summary of the fish captured, broken out by final disposition, appears in the following tables. Table 1 summarizes the native and exotic species of vertebrates and crustaceans handled during the operation except for the accidental mortalities as described above. The mortalities associated with the ill-fated shuttle run are listed separately for comparison in Table 2. Overall, mortality of handled fish was low. Table 3 presents the sum total and percent survivorship of the vertebrates handled, broken out by Conservation Status with the mortalities of the failed shuttle transport group tallied separately and combined, for comparison. For the sensitive/listed species, steelhead/rainbow trout, survivorship was 97% (34 of 35 captured).

Table 1. Fish captures exclusive of the mortalities of failed shuttle run.

Common Name	Genus-species	Conservation Status	Collection Group	Disposition	Number
California Roach	*Hesperoleucus symmetricus*	Native	JPA/DDS/TRH	Released	1114
California Roach	*Hesperoleucus symmetricus*	Native	JPA/DDS/TRH	Mortality	11
Pacific Lamprey	*Lampetra tridentata*	Native	JPA/DDS/TRH	Released	1
Prickly Sculpin	*Cottus asper*	Native	JPA/DDS/TRH	Released	371
Riffle Sculpin	*Cottus gulosus*	Native	JPA/DDS/TRH	Released	33
Riffle Sculpin	*Cottus gulosus*	Native	JPA/DDS/TRH	Mortality	1
Sacramento Sucker	*Catostomus occidentalis*	Native	JPA/DDS/TRH	Released	1708
Sacramento Sucker	*Catostomus occidentalis*	Native	JPA/DDS/TRH	Mortality	20
Steelhead/Rainbow Tr	*Oncorhynchus mykiss*	Native	JPA/DDS/TRH	Released	34
Steelhead/Rainbow Tr	*Oncorhynchus mykiss*	Native	JPA/DDS/TRH	Mortality	1
				Total Released	**3262**
				Total Mortalities	**33**
Red-eared Slider	*Trachemys scripta*	Exotic	JPA/DDS/TRH	Sacrificed	1
Bullfrog	*Rana catesbeiana*	Exotic	JPA/DDS/TRH	Sacrificed	9
Common Carp	*Cyprinus carpio*	Exotic	JPA/DDS/TRH	Sacrificed	54
Goldfish	*Carassius auratus*	Exotic	JPA/DDS/TRH	Sacrificed	2
Largemouth Bass	*Micropterus salmoides*	Exotic	JPA/DDS/TRH	Sacrificed	79
Louisiana Red Crayfish	*Procamberus clarkii*	Exotic	JPA/DDS/TRH	Sacrificed	21
Signal Crayfish	*Pacifastacus leniusculus*	Exotic	JPA/DDS/TRH	Sacrificed	3
				Total Sacrificed	**168**

Table 2. Mortalities during single failed shuttle transport*.

Common Name	Genus-species	Conservation Status	Collection Group	Disposition	Number
Prickly Sculpin	*Cottus asper*	Native	JMS	Mortality	15
California Roach	*Hesperoleucus symmetricus*	Native	JMS	Mortality	41
Riffle Sculpin	*Cottus gulosus*	Native	JMS	Mortality	5
Sacramento Sucker	*Catostomus occidentalis*	Native	JMS	Mortality	48
				Total Mortalities	109

* Failed shuttle transport: see text for description

Table 3. Summary statistics and survivorship percentages.

	Collection Group		Percent Survivorship	
Status/Disposition	JPA/DDS/TRH	JMS	JPA/DDS/TRH	JPA/DDS/TRH+JMS
Total Native Released	3262	N/A	99.00%	95.83%
Total Native Mortality	33	109	1.00%	4.17%
Total Exotic Sacrificed	168	N/A	100.00%	100:00%

All native fish were transported upstream to approximately 1 mile above the project reach in the vicinity of Camden Avenue. Per consultation with the local CDFG fishery biologist, fish were released to the stream in this area. This site was chosen as virtually the only upstream point within the Guadalupe Creek system that provided proper access and configuration where the transport trailer could be safely positioned for evacuating the holding tank. A similar site had been identified downstream for releasing outmigrants but no steelhead adults or juveniles in smolting condition were encountered thus, the Camden Avenue release point was used exclusively. Additional rationale for the release point included keeping the fish within that sub-watershed owing to issues relating to bioaccumulation of mercury by the resident fauna. There is also the speculation proffered that there may be some benefit to positioning the relocated fish in relative proximity to the restoration project reach. Some fish may readily disburse back to repopulate the rehabilitated stream section following completion of construction, rewatering and the onset of higher flows in the winter. However, no fish were marked so this idea would remain untested with the relocated cohort. No fish were retained for any other purpose.

The estimated age-size class distributions of the species suggest reproducing populations of resident native fish were occupying the project reach. The composition was of mostly warm-water tolerant species with a relatively few trout and riffle sculpin present. This correlates well with the apparent overall stream conditions of the project reach and is very consistent with fish sampling data from some recent field studies (SCVWD/FAHCE in 1999, unpublished; Stacy Li/FAHCE in 2000, unpublished).

The following discussion of graphs in Figure 1 provide some additional interpretations of the patterns of fishery resources that had been present based on the gathered specimens. The age-size class divisions are not referenced here to any particular data set, thus are somewhat arbitrary. Instead, for each species they are based on generalized previous experience within local systems. Also, because lengths were only estimated as fish were sorted and counted, the relative proportions of the assigned classes may not be exact. Fry of most of the species may be "under-represented" in these size-class distributions owing to differential susceptibility to electrofishing and capture with the mesh size of the nets used.

Figure 1.1 A single Pacific lamprey larva, or ammocete, was collected. One other larval

specimen was observed but escaped capture. It may be a bit late in the season to expect spawning adults. This species is known to frequent the watershed for spawning and rearing. In that larval lamprey may take 4-6 years to transform, before outmigrating, capturing or observing so few individuals during this exercise suggests this species may not have been making extensive use of the project reach in recent years.

Figure 1.2 Adult and juvenile prickly sculpin were encountered, with these two age-size classes well represented in the sample, suggesting resident fish were present in the project site with substantial population recruitment occurring. Extrapolating more detailed interpretations from the existing data can potentially be skewed by sizes of individuals recovered. The sculpin swim response to electrofishing can result in a lower relative catch than for other fish species. No fry were netted probably owning to their small size. The adults are probably more vulnerable to capture than the juveniles.

Figure 1.3 A few adult-size riffle sculpin were captured. These were almost all captured in the upstream end of the project site and in a small localized area. The project area may have supported small numbers of this species. Within the watershed, this reach of Guadalupe Creek has probably presented some transition zone for system partitioning between riffle sculpin and prickly sculpin, with the former more commonly found in the upper, cooler reaches of the system.

Figure 1.4 Large numbers of California roach occurred in the project reach. Adults, including gravid females were captured as well as fry and juveniles indicating resident, reproducing populations of this species occurred in the project reach.

Figure 1.5 Multiple size classes of Sacramento suckers were captured. Large, older (brood) stock, many juveniles and substantial numbers of fry were encountered throughout the site. Resident suckers with regular reproduction and recruitment occurred in the project reach. The survivorship to release for the larger specimens of this species could be considered a highly favorable sign of overall successful conditions of execution.

Figure 1.6 A relatively small number of trout were collected. They were mostly found toward the upstream sections of the project reach. Since the trout captured were all of resident, or non-smolt coloration and proportion and these collections were made past the typical out-migration season, the fish larger than young-of-year were identified as residents (or at best, steelhead juveniles that had reverted to stream-type morphology and physiology). The Y1 and Y2 age classes should be viewed with some caution in that resident trout (mixed with steelhead juveniles) can have various overlapping size classes and no other corroborating data was collected; e.g. scales for annuli count). Two fish of the "Y2" age class exhibited fin clip marks. The fin marks match the regular position that district fishery biologists have used for collecting where tissue samples are acquired for genetics analysis of the trout stocks. These were presumably marked fish from the 1999 sampling effort. There were 3 young-of-year size fish which are presumed to be of steelhead origin. They were sufficiently large that it appeared they had been feeding and growing ahead of the resident trout cohort that would be expected to spawn a bit later than the steelhead. A single 12-14" "adult" trout was encountered in the pool immediately downstream of the Masson structure in August. It was deemed to be a resident fish.

Figures 1.7-1.8 Two species of exotic crayfish were recorded, signal and Louisiana or swamp crayfish. These are naturalized throughout much of the Santa Clara County streams. The distributional pattern for these species is probably similar to that of the resident sculpins with the project reach acting as a transition zone. The signal crayfish persist and can out compete typically only in the cooler, upstream reaches and the swamp crayfish occupying the lower, warmer regimes within the watershed. These records are of incidental captures.

Figure 1.9-1.12 Of the exotic fishes, most of the individuals were of juvenile or fry size classes. Although many of our local exotic fishes tend to prefer calmer, standing bodies of water, adult fishes of these species may use the stream reaches adjacent to Lake Almaden for spawning and rearing of some numbers of juveniles. One "lake-size" adult large mouth bass was captured lurking in a deep pool. Although relatively low numbers of exotic fish were captured in the project reach, occurrence of exotic fishes in the restoration site will be a recurring phenomenon while persistent refugia populations of breeding adults are subsidized by the adjoining, artificial, lentic water bodies they prefer.

Figure 1.13. A single turtle, an exotic, red-eared slider, was removed from the system. This turtle was discovered by SCVWD Water Operations personnel during a routine check of the Masson Diversion facility and captured by SCVWD biologists using a dip net. It was probably in transit downstream when it became stranded in the Masson diversion fish ladder that was blocked off from passage into the project reach. The turtle showed some evidence of shell annuli patterns that may be expected of released pets. As such, the age-size assignment is somewhat speculative.

No other native aquatic vertebrates or sensitive aquatic invertebrates (e.g. native clams) were encountered. Evidence of infestation by the exotic Asian freshwater clam, *Corbicula fluminea* was found. Live individuals and old shell remnants of this pest were observed but not collected.

The Guadalupe Creek Restoration Project site was cleared of the vast majority of native and exotic fish resources. Subsequent to dryback and dewatering, some relictual numbers of fish may have remained in the remnant pools but are of minor ecological consequence. Predominant native fish species included the native assemblage of the Sacramento suckers, California roach, sculpins and steelhead/rainbow trout group common to Santa Clara Valley. The count and size-age class tally made of the captured specimens indicated mostly resident fishes were successfully using the site. No other more detailed data was taken. Native fish were released to the tributary watershed in appropriate habitat upstream of the project site. The survivorship to release of handled fish was very high. In summary, the operation was effective in achieving the management goals of the project.

Figure 1. Age-size class distribution. Note the following: Numbers in the bar are the total count in the class. Age-size codes: F=fry, J=juvenile, A=adult, AMO=ammocetes, FL= fork length, TL= total length, CL=carapace length, SVL= snout-vent length. Lengths are in millimeters. Pink bars are of native species, blue bars are exotic species.

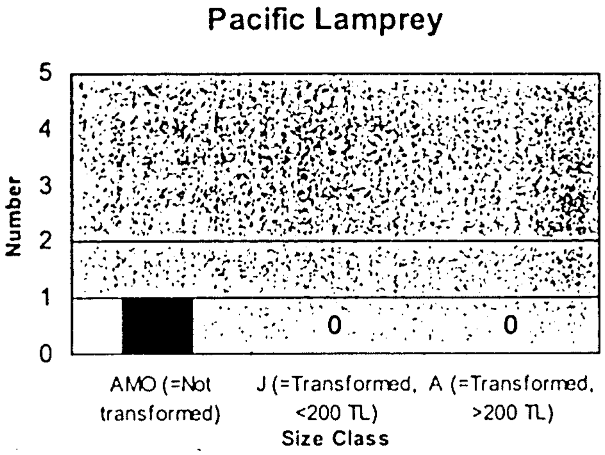
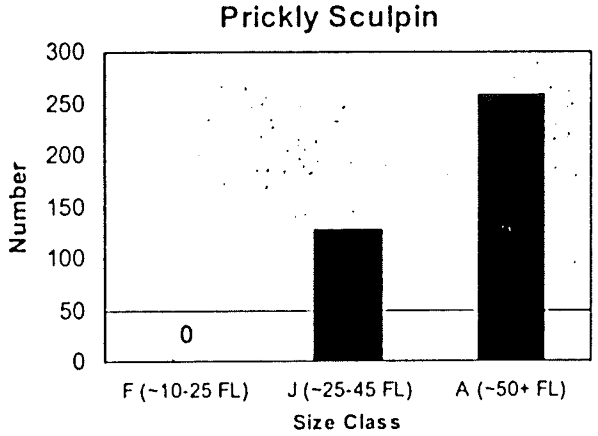


Figure 1.1



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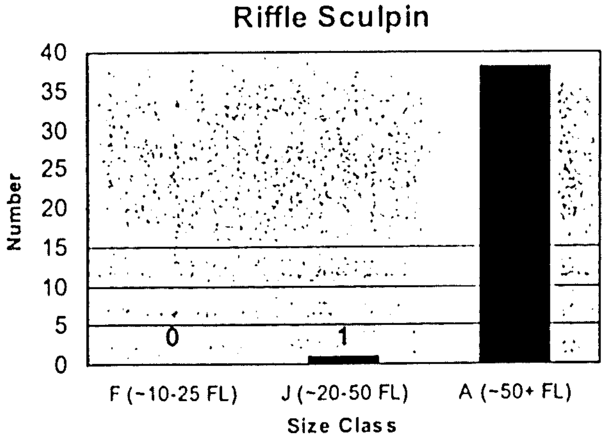

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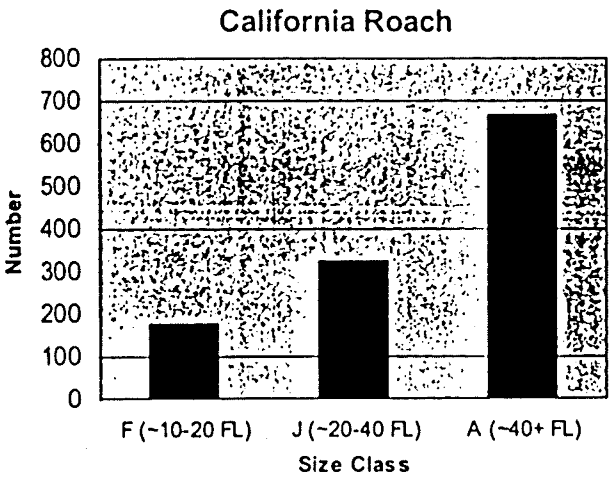

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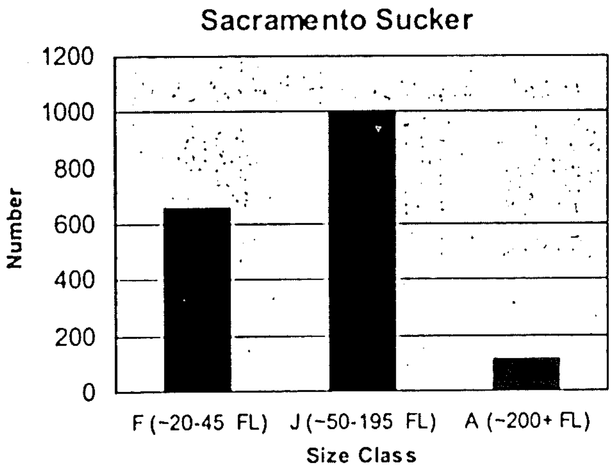

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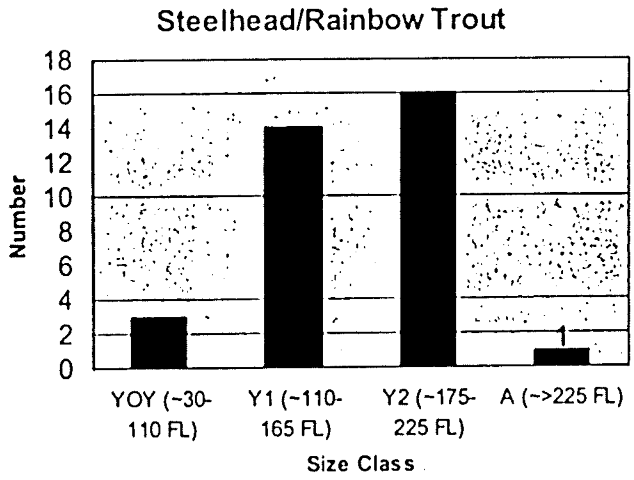

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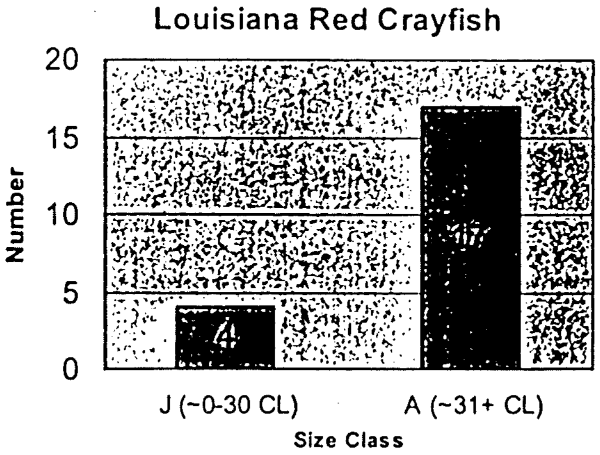
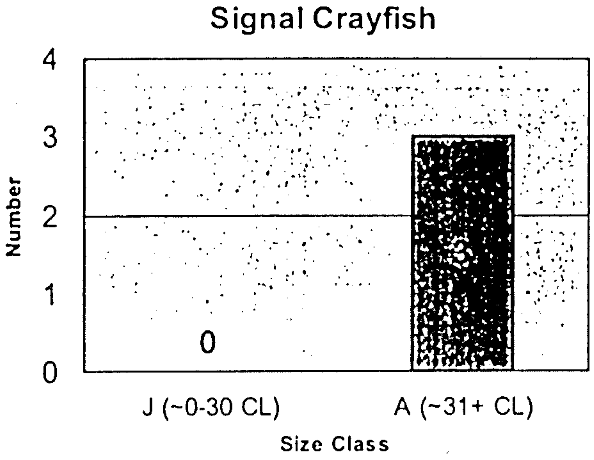


Figure 1.7



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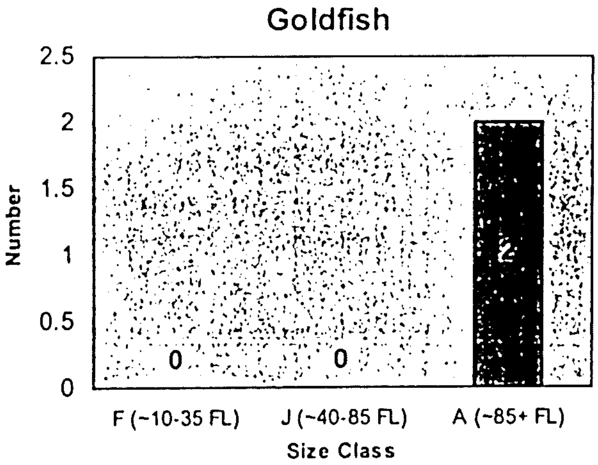
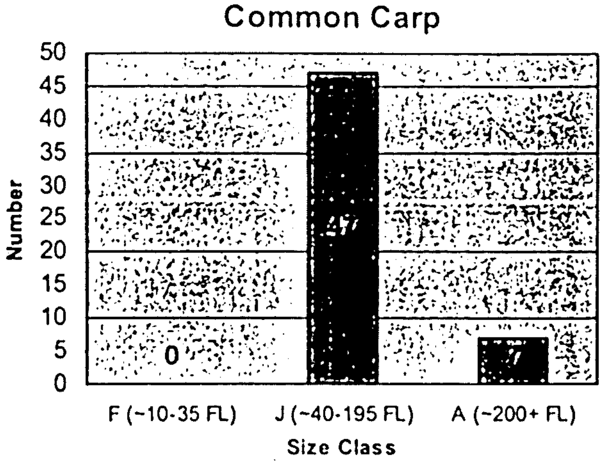


Figure 1.9

Figure 1.10



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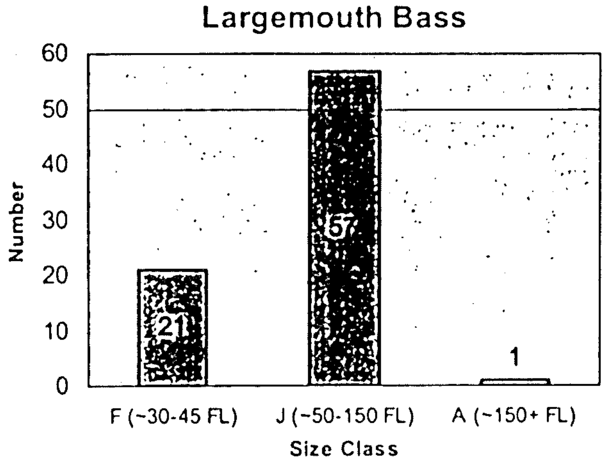

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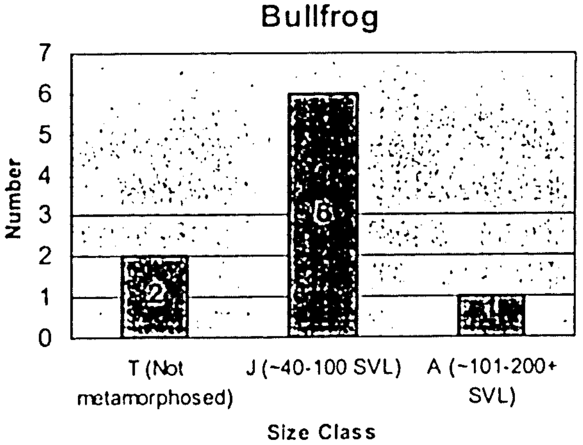

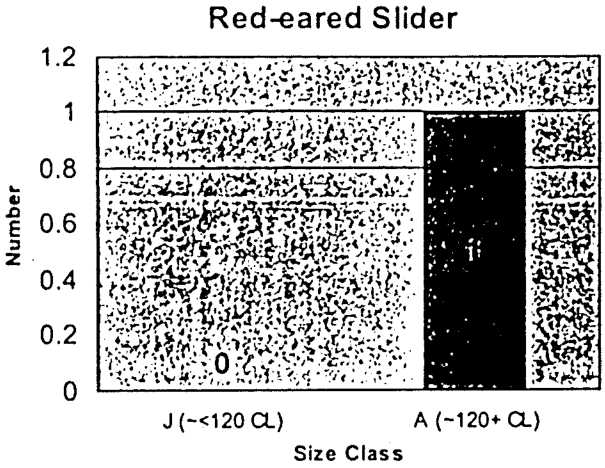
Red-eared Slider
1.2
1
0.8
0.6
0.4
0.2
0
Number
0
1
J (~<120 CL)
A (~120+ CL)
Size Class

Figure 1.13

APPENDIX D

- Guadalupe Creek Restoration Project Hazmat Deposition Data and Report

Description of Soil Samples Collected for Guadalupe Creek Reconstruction Project
July - September 2001

Samples Collected on July 30, 2001

Three composite soil samples were collected on Monday July 30, 2001. The description of the sampling locations is as follows:

SSG-2.8+50 Sheet G-2 at 8+50 Ramp across creek opposite Percolation Pond No. 4

Two holes were dug along the top east side of the ramp to a depth of 1 ft at distances of 27 ft and 38.5 ft from the start of the ramp on the north side. The other two holes were dug on the west side of the ramp to a depth of 1 ft at distances of 30 ft and 46.2 ft from the start of the ramp on the north side.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

SSG-13.8+50 Sheet G-13 at 73.00 Soil Pile on south bank of creek west of above ramp, East Half

One composite sample was collected from each half of the soil pile. Two holes were dug into the south side of the pile at distances of 23.5 ft and 37 ft from the east end of the pile. One hole was near the bottom and the other hole was 6 ft up from the bottom. The samples were collected from about 1 ft into the pile in the hole near the bottom and about 2 ft into the pile in the upper hole. The other two holes were dug on the top, northern part of the pile to a depth of 0.5 ft at distances of 3 ft and 25 ft from the east end of the pile.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

SSG-13.8+100 Sheet G-13 at 100 Soil Pile on south bank of creek west of above ramp, West Half

One composite sample was collected from each half of the soil pile. Two holes were dug into the south side of the pile at distances of 20.9 ft and 59.7 ft from the west end of the pile. The holes were about 2 and 5 ft from the bottom. The samples were collected from about 1 ft into the pile. The other two holes were dug on the northern side of the pile to a depth of 1 ft at a distance of 30.3 ft from the west end of the pile and at the west end of the pile about 3 ft up from the bottom.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

R-1K Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Samples Collected on August 8, 2001

Five composite soil samples were collected on Wednesday August 8, 2001. The description of the sampling locations is as follows:

SSG-5.29.1 Sheet G-5 Soil Stockpile west of Station 29 on north side of creek (West end)

The soil stockpile was divided into five sections. Hole #1 was dug 0.2 ft beneath surface at location 3 ft in from north side of pile and 25 ft east of end of pile. Hole #2 was dug 0.5 ft into pile at location 4 ft from south side of pile and 2 ft from western end. Hole #3 was dug 0.3 ft into top of pile at location 6 ft west of station 29 and 4.3 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 20 ft west of station 29 and 3 ft from southern edge of pile.

SSG-5.29.50 Sheet G-5 Soil Stockpile west of Station 29, Section 2

Hole #1 was dug 0.5 ft beneath surface at location 1.5 ft in from north side of pile and 22 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 31 ft east of station 29 and 4 ft from northern edge of pile (near top). Hole #3 was dug 1 ft into top of pile at location 52.5 ft east of station 29 and.3 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 41ft east of station 29 and 2 ft from bottom of pile on southern edge.

SSG-5.29.75 Sheet G-5 Soil Stockpile west of Station 29, Section 3

Hole #1 was dug 0.5 ft beneath surface at location 2 ft in from north side of pile and 100 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 109 ft east of station 29 and 13 ft from northern edge of pile (on top). Hole #3 was dug 1 ft into top of pile at location 117.5 ft east of station 29 and.25 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 131.5 ft east of station 29 and 5 ft from south side of pile. Hole #4 was opposite MV18 stake marker.

SSG-5.29.100 Sheet G-5 Soil Stockpile west of Station 29, Section 4

Hole #1 was dug 0.5 ft beneath surface at location 2.5 ft in from north side of pile on top ramp and 238 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 243 ft east of station 29 and 11 ft from northern edge of pile (on top). Hole #3 was dug 0.5 ft into top of pile at location 271 ft east of station 29 and.3 ft from southern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 281 ft east of station 29 and 1 ft from south side of pile.

SSG-5.29.100 Sheet G-5 Soil Stockpile west of Station 29, Section 4 (East End)

Hole #1 was dug 0.5 ft beneath surface at location 2 ft in from south side of pile and 315 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 25 ft from eastern end of pile and 26 ft from southern side of pile. Hole #3 was dug 0.5 ft into top of pile at location 27 ft from eastern end of pile and.9 ft from southern edge of pile. Hole #4 was dug 1 ft into top of pile at location 51 ft from eastern end of pile and.3 ft from southern edge of pile

R-2K Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Samples Collected on August 13, 2001

Five composite soil samples were collected on Monday August 13, 2001. A soil stockpile located on Sheet 1 upstream of Almaden Expressway that consisted of a series of 10 small piles was sampled. The description of the sampling locations is as follows:

SSG-1.E1 Soil Stockpile (Pile 1)

The eastern-most pile was 15 ft long. Hole #1 was dug 0.5 ft into the pile at a location 4.5 ft from the south side and 4 ft from the east side. Hole #2 was dug 0.5 ft into the pile at a location 3 ft from the east side and 2.5 ft from the north side. Hole #3 was dug 0.5 ft into the pile at a location 6 ft from the north side and 6 ft from the west side. Hole #4 was dug 0.5 ft into the pile at a location 12 ft from the west end and 5 ft from the south side.

SSG-1.E2 Soil Stockpile (Pile 2)

The second pile from the east end was 15 ft long. Hole #1 was dug 0.5 ft into the pile at a location 7 ft from the south side and 3 ft from the east end of the second pile. Hole #2 was dug 0.5 ft into the pile at a location 6ft west of the end of the second pile and 5 ft from the north side. Hole #3 was dug 0.5 ft into the pile at a location 9 ft from the east end of second pile and 5 ft from the south side. Hole #4 was dug 0.5 ft into the pile at a location 13 ft from the west end of the second pile and 2.75 ft from the north side.

SSG-1.E3 Soil Stockpile (Piles 3 and 4)

The third pile from the east end was 15 ft long and the fourth [pile was about 8 ft long. Hole #1 was dug 0.5 ft into the pile at a location 3.7 ft from the north side and 3.5 ft from the east end of the third pile. Hole #2 was dug 0.5 ft into the pile at a location 6.5 ft west of the end of the fourth pile and 7 ft from the north side. Hole #3 was dug 0.5 ft into the pile at a location 6 ft from the east end of third pile and 4 ft from the south side. Hole #4 was dug 0.5 ft into the pile at a location 1 ft from the east end of the fourth pile and 3.9 ft from the south side.

SSG-1.E34 Soil Stockpile (Piles 5, 6, and 7)

The fifth pile from the east end was 10 ft long, the sixth pile was about 10 ft long, and the fourth [pile was about 12 ft long. Hole #1 was dug 0.5 ft into the fifth pile at a location 5 ft from the north side and 3 ft from the west end of the fifth pile. Hole #2 was dug 0.5 ft into the sixth pile at a location 6 ft west of the end of the fifth pile and 3 ft from the north side. Hole #3 was dug 0.5 ft into the seventh pile at a location 2.5 ft from the west end of seventh pile and 3 ft from the south side. Hole #4 was dug 1 ft into the seventh pile at a location 2.5 ft from the west end of the seventh pile and 5 ft from the south side.

SSG-1.E35 Soil Stockpile (Piles 8, 9, and 10)

The eighth pile from the east end was about 8 ft long, the ninth pile was about 12 ft long, and the tenth pile was about 14 ft long. Hole #1 was dug 0.5 ft into the eighth pile at a location 4.5 ft from the north side and 7 ft from the west end of the eighth pile. Hole #2 was dug 0.5 ft into the ninth pile at a location 3.5 ft west of the end of the ninth pile and 8 ft from the north side. Hole #3 was dug 0.5 ft into the ninth pile at a location 5 ft from the west end of ninth pile and 6.5 ft from the north side. Hole #4 was dug 1 ft into the seventh pile at a location 11.5 ft from the west end of the tenth pile and 2 ft from the north side.

R-3K Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Samples Collected on August 16, 2001

Three composite soil samples were collected on Thursday August 16th, 2001. The description of the sampling locations is as follows:

SSG-1272: Sheet G-12 Soil Stockpile between Station 68+00 and 72+00 on north side of creek (West End)

The soil stockpile (Pile #1) was divided into two halves. Composite sample SSG-1272 was collected from four holes along the western part of the pile to a depth of about 1 ft. The separate samples were placed in a single container to form one composite sample.

SSG-1268: Sheet G-12 Soil Stockpile between Station 68+00 and 72+00 on north side of creek (East End)

The soil stockpile (Pile #1) was divided into two halves. Sample SSG-1268 was collected from four holes along the eastern part of the pile to a depth of about 1 ft. The separate samples were placed in a single container to form one composite sample.

SSG-1058: Sheet G-10 Soil Stockpile between Station 58+00 and 59+00 on north side of creek

One composite soil sample was collected from soil stockpile (Pile #2). Composite sample SSG-1058 was collected from four holes in the pile. Two were located along the northern side and two along the southern side to a depth of about 1 ft. The separate samples were placed in a single container to form one composite sample.

Samples Collected on September 21, 2001

Three composite soil samples were collected on Friday September 21, 2001. These samples were collected to re-evaluate elevated values obtained for mercury in one of the piles (SSG-50+50) during the September 18th sampling event. The original pile had been flattened and compacted, with a perimeter fence erected around an area that encompassed approximately 1/3 the area of the original pile. A composite sample was collected from inside and outside the perimeter fence. Additionally, a composite sample was collected from the soil source area (Station SSG-68+50).

SSG-50+50B: Sheet G-9 Soil from area within the perimeter fencing located at Station 50+50 on north side of creek (West end)

The fenced area was divided into four sections. Hole #1 (southwest quadrant) was dug 0.5 ft beneath the surface at a location 10 ft in from the western end of the fencing and 10 ft in from the southern side of the fencing. Hole #2 (southeast quadrant) was dug 0.5 ft beneath the surface at a location 15 ft in from the eastern side of the fencing and 23 ft in from the southern side of the fencing. Hole #3 (northeast quadrant) was dug 0.5 ft beneath the surface at a location 18 ft in from the eastern end of the fence and 17 ft in from the northern side of the fence. Hole #4 (northwest quadrant) was dug 0.5 ft beneath the surface at a location 5 ft in from the western side of the fence and 1 ft in from the northern side of the fence.

SSG-50+50C: Sheet G-9 Soil from area outside of the perimeter fencing located at Station 50+50 on north side of creek (West end)

The open area was divided into four sections. Hole #1 (southeast quadrant) was dug 0.5 ft beneath the surface at a location 35 ft in from the western end of the fencing and 1 ft in from the southern side of the "pile". Hole #2 (northeast quadrant) was dug 0.5 ft beneath the surface at a location 50 ft in from the western side of the fencing and 25 ft in from the northern side of the "pile". Hole #3 (southwest quadrant) was dug 0.5 ft beneath the surface at a location 8.7 ft in from the western end of the fence and 12 ft in from the southern side of the "pile". Hole #4 (northwest quadrant) was dug 0.5 ft beneath the surface at a location 98 ft in from the western side of the fence and 10 ft in from the northern side of the "pile".

SSG-68+50B: Sheet G-12 Soil Stockpile located at Station 68+50 on the north side of creek (west end)

This soil stockpile was located at the edge of the levee road and was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 15 ft in from the eastern end of the pile and 1 ft in from the northern side of the pile. Hole #2 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 65 ft in from the eastern end of the pile and 3 ft in from the southern side of the pile. Hole #3 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 37.5 ft in from the western end of the pile and at the crest of the pile. Hole #4 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 5 ft in from the western side of the pile and 1 ft in from the southern side of the pile.

R-2GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Samples Collected on September 18, 2001

Four composite soil samples were collected on Tuesday September 18th, 2001. The description of the sampling locations is as follows:

SSG-50+50: Sheet G-9 Soil Stockpile east of Station 50+50 on north side of creek (West end)

The soil stockpile was divided into four sections. Hole #1 (southwest quadrant) was dug 0.5 ft beneath the pile surface at a location 10 ft in from the western end of the pile and 3 ft in from the southern side of the pile. Hole #2 (northwest quadrant) was dug 0.5 ft beneath the pile surface at a location 75 ft in from the western end of the pile and 6 ft in from the northern side of the pile. Hole #3 (southeast quadrant) was dug 0.5 ft beneath the pile surface at a location 37 ft in from the eastern end of the pile and 1 ft in from the southern side of the pile. Hole #4 (northeast quadrant) was dug 0.5 ft beneath the pile surface at a location 0.5 ft in from the eastern side of the pile and 4 ft in from the northern side of the pile.

SSG-68+50: Sheet G-12 Soil Stockpile located at Station 68+50 on the north side of creek (west end)

This soil stockpile was located at the edge of the levee road and was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 15 ft in from the eastern end of the pile and 1 ft in from the northern side of the pile. Hole #2 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 65 ft in from the eastern end of the pile and 3 ft in from the southern side of the pile. Hole #3 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 37.5 ft in from the western end of the pile and at the crest of the pile. Hole #4 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 5 ft in from the western side of the pile and 1 ft in from the southern side of the pile.

SSG-25+00: Sheet G-5 Flattened Soil Stockpile located between Stations 25+00 and 29+00 on the north side of creek (west end)

The soil stockpile was divided into eight sections. Hole #1 was dug 0.25 ft beneath the surface at a location 10 ft in from the western end of the "pile" and 12 ft in from the northern side of the "pile". Hole #2 was dug 0.25 ft beneath the surface at a location 8 ft in from the western end of the pile and 1 ft in from the southern side of the "pile". Hole #3 was dug 0.25 ft beneath the surface at a location 150 ft in from the western end of the "pile" and 12.5 ft in from the northern side of the pile. Hole #4 was dug 0.25 ft beneath the surface at a location 200 ft in from the western side of the "pile" and 3 ft in from the southern side of the pile. Hole #5 was dug 0.25 ft beneath the surface at a location 280 ft in from the western end of the "pile" and 3 ft in from the southern side of the "pile". Hole #6 was dug 0.25 ft beneath the surface at a location 250 ft in from the western end of the pile and 12.5 ft in from the southern side of the "pile". Hole #7 was dug 0.25 ft beneath the surface at a location 1 ft in from the eastern end of the "pile" and 1 ft in from the northern side of the pile. Hole #8 was dug 0.25 ft beneath the surface at a location 5 ft in from the eastern side of the "pile" and 5 ft in from the southern side of the pile.

SSG-8+00: Sheet G-2 Flattened Soil Stockpile located between Stations 5+00 and 8+00 on the north side of creek (west end)

The soil stockpile was divided into six sections. Hole #1 was dug 0.25 ft beneath the surface at a location 20 ft in from the western end of the "pile" (Station 8+00) and 10 ft in from the northern side of the "pile". Hole #2 was dug 0.25 ft beneath the surface at a location 10 ft in from the western end of the pile and 5 ft in from the southern side of the "pile". Hole #3 was dug 0.25 ft beneath the surface at a location 150 ft in from the western end of the "pile" and 15 ft in from the southern side of the pile. Hole #4 was dug 0.25 ft beneath the surface at a location 185 ft in from the western side of the "pile" and 1 ft in from the northern side of the pile. Hole #5 was dug 0.25 ft beneath the surface at a location 12 ft in from the eastern end of the "pile" (Station 5+00) and 1 ft in from the southern side of the "pile". Hole #6 was dug 0.25 ft beneath the surface at a location 27 ft in from the eastern end of the pile and 12 ft in from the northern side of the "pile".

R-1GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Samples Collected on September 26, 2001

Two composite soil samples were collected on Wednesday September 26th, 2001. The description of the sampling locations is as follows:

SSG-55+00: Soil Excavated from Sheet G-12 Soil Stockpile at Station 68+50 through 70+50 and stored west of Station 50+50 (Sheet G-9) on north side of creek (West end)

The soil stockpile was excavated from an area between Stations 68+50 and 70+50 and placed on a plastic tarp located at Station 55+00. The soil stockpile was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 27 ft in from the eastern end of the pile and 10 ft in from the northern side of the pile. Hole #2 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 10 ft in from the western end of the pile and 5 ft in from the northern side of the pile. Hole #3 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 3 ft in from the western end of the pile and 3 ft in from the southern side of the pile. Hole #4 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 50 ft in from the eastern side of the pile and 12 ft in from the southern side of the pile.

SSG-51+00: Sheet G-9 Soil Stockpile located at Station 51+00 on the north side of creek (west end)

This stockpile was excavated from an area between Stations 51+00 and 54+00. This soil stockpile was divided into four sections. Hole #1 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 50 ft in from the western end of the pile and 9 ft in from the northern side of the pile. Hole #2 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 98 ft in from the western end of the pile and 10 ft in from the southern side of the pile. Hole #3 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 10 ft in from the eastern end of the pile and 18 ft in from the southern side of the pile. Hole #4 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 70 ft in from the eastern side of the pile and 5 ft in from the northern side of the pile.

R-3GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: Ferma Project Number: Guadalupe Creek (11823-01) Project Manager: Mark Abu-Tair	Reported: 07/27/01 10:49

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-9 53 (MKG0377-01) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	17	7.1	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-5 27 (MKG0377-02) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.8	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-4 22.5 (MKG0377-03) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.6	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-13 72 F (MKG0377-04) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.9	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-13 72 W (MKG0377-05) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	11	6.5	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-4 18.5 (MKG0377-06) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	11	6.6	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	

Summary

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: Ferma Project Number: Guadalupe Creek (11823-01) Project Manager: Mark Abu-Tair	Reported: 07/27/01 10:49

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-9 53 (MKG0377-01) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.7	0.019	mg/kg	5	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-5 27 (MKG0377-02) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	9.5	0.044	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-4 22.5 (MKG0377-03) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	3.9	0.045	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-13 72 F (MKG0377-04) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.7	0.019	mg/kg	5	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-13 72 W (MKG0377-05) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.1	0.0079	mg/kg	2	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-4 18.5 (MKG0377-06) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	6.8	0.041	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
G- 1372.75 (MKG0377-07) Water Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	ND	0.00020	mg/l	1	1G25012	07/25/01	07/25/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project -
Project Number Guadalupe Creek
Project Manager Mark Abu-Tair

Reported:
08/01/01 12:17

Total Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-13.73 (MKG0553-01) Soil Sampled: 07/30/01 13:45 Received: 07/30/01 15:40									
Mercury	3.6	0.053	mg/kg	15	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	12	5.0	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
SSG-2.8 +/-50 (MKG0553-02) Soil Sampled: 07/30/01 12:55 Received: 07/30/01 15:40									
Mercury	19	0.12	mg/kg	30	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	7.6	4.7	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
SSG-13.8+/-100 (MKG0553-03) Soil Sampled: 07/30/01 13:20 Received: 07/30/01 15:40									
Mercury	10	0.11	mg/kg	30	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	9.0	5.1	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
R-1K (MKG0553-04) Water Sampled: 07/30/01 14:10 Received: 07/30/01 15:40									
Mercury	ND	0.00020	mg/l	1	1G31025	07/31/01	08/01/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entiret

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: Guad Creek Project Manager: Mark Abu-Tair	Reported: 08/10/01 16:36

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-5(29.1-29.150 (MKH0143-01) Soil Sampled: 08/08/01 12:35 Received: 08/08/01 14:30									
Mercury	0.28	0.0038	mg/kg	1	1H08034	08/08/01	08/09/01	EPA 7471A	
Lead	5.8	5.1	"	"	1H08018	08/08/01	08/09/01	EPA 6010A	
R-2K (MKH0143-02) Water Sampled: 08/08/01 13:15 Received: 08/08/01 14:30									
Mercury	ND	0.00020	mg/l	1	1H08035	08/08/01	08/10/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 08 16 01 06 25

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1,E1-SSG-1E5 (MKH0233-01) Soil Sampled: 08/13/01 12:10 Received: 08/13/01 13:40									
Mercury	2.7	0.038	mg/kg	10	1H13042	08/13/01	08/13/01	EPA 7471A	
Lead	8.1	4.9	"	1	1H13025	08/13/01	08/13/01	EPA 6010A	
R-3K (MKH0233-02) Water Sampled: 08/13/01 12:30 Received: 08/13/01 13:40									
Mercury	ND	0.00020	mg/l	1	1H15021	08/15/01	08/15/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tetra Tech, Inc.
180 Howard St., Ste 250
San Francisco CA, 94105

Project: Guadalupe Creek
Project Number: TC 11823-01
Project Manager: Karen Summers

Reported:
17-Aug-01 14:21

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS G-12 72 (W108306-01) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45									
Mercury	3.2	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	
SS G-12 68 (W108306-02) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45									
Mercury	3.8	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	
SS G-10 58 (W108306-03) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45									
Mercury	3.4	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	9.4	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG 50+50 (MKI0330-01) Soil	**Sampled: 09/18/01 10:30**	**Received: 09/18/01 14:35**							
Mercury	50	0.42	mg/kg	120	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	8.1	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 68+50 (MKI0330-02) Soil	**Sampled: 09/18/01 11:15**	**Received: 09/18/01 14:35**							
Mercury	3.8	0.057	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	12	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 25+00 (MKI0330-03) Soil	**Sampled: 09/18/01 12:10**	**Received: 09/18/01 14:35**							
Mercury	13	0.065	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	13	5.2	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 08+00 (MKI0330-04) Soil	**Sampled: 09/18/01 11:45**	**Received: 09/18/01 14:35**							
Mercury	11	0.068	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	14	5.1	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
R-GW-1 (MKI0330-05) Water	**Sampled: 09/18/01 12:30**	**Received: 09/18/01 14:35**							
cury	ND	0.00020	mg/l	1	1120016	09/20/01	09/20/01	EPA 7470A	

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

TCLP Metals by EPA 1311/6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG 50+50 (MK10330-01) Soil Sampled: 09/18/01 10:30 Received: 09/18/01 14:35									
Mercury	ND	0.00020	mg/l	1	1128010	09/28/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:29

Total Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-50+50-B (MKI0417-01) Soil Sampled: 09/21/01 09:00 Received: 09/21/01 14:26									
Mercury	7.3	0.057	mg/kg	15	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-50+50-C (MKI0417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26									
Mercury	61	0.50	mg/kg	120	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-68+50-B (MKI0417-03) Soil Sampled: 09/21/01 10:45 Received: 09/21/01 14:26									
Mercury	30	0.21	mg/kg	60	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-68+50-B (MKI0417-04) Water Sampled: 09/21/01 11:00 Received: 09/21/01 14:26									
Mercury	ND	0.00020	mg/l	1	1124020	09/24/01	09/25/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	**Reported:** 09/28/01 16:41

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-55+00 (MKI0523-01) Soil Sampled: 09/26/01 11:21 Received: 09/26/01 14:20									
Mercury	6.0	0.12	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	11	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
SSG-51+00 (MKI0523-02) Soil Sampled: 09/26/01 12:00 Received: 09/26/01 14:20									
Mercury	11	0.11	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	12	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
R-3GW (MKI0523-03) Water Sampled: 09/26/01 12:30 Received: 09/26/01 14:20									
Mercury	ND	0.00020	mg/l	1	1127011	09/27/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

TCLP Metals by EPA 1311/6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-50+50-C (MK10417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26									
Mercury	ND	0.00020	mg/l	1	1128010	09/28/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
10/16/01 11:35

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1377 A (MKJ0198-01) Soil Sampled: 10/09/01 10:30 Received: 10/09/01 12:25									
Mercury	56	0.48	mg/kg	120	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	18	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1377 B (MKJ0198-02) Soil Sampled: 10/09/01 10:40 Received: 10/09/01 12:25									
Mercury	20	0.24	mg/kg	60	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	20	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1270A (MKJ0198-03) Soil Sampled: 10/09/01 11:00 Received: 10/09/01 12:25									
Mercury	78	0.48	mg/kg	120	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	32	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1270B (MKJ0198-04) Soil Sampled: 10/09/01 11:10 Received: 10/09/01 12:25									
Mercury	3.9	0.24	mg/kg	60	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	60	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
RS 1 (MKJ0198-05) Water Sampled: 10/09/01 10:45 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J10017	10/10/01	10/11/01	EPA 7470A	
Lead	ND	0.10	"	"	1J09029	10/09/01	10/10/01	EPA 6010A	

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
10/16/01 11:35

STLC CAM Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1377 A (MKJ0198-01) Soil Sampled: 10/09/01 10:30 Received: 10/09/01 12:25									
Mercury	0.00032	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.54	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1377 B (MKJ0198-02) Soil Sampled: 10/09/01 10:40 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.25	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1270A (MKJ0198-03) Soil Sampled: 10/09/01 11:00 Received: 10/09/01 12:25									
Mercury	0.00031	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.42	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1270B (MKJ0198-04) Soil Sampled: 10/09/01 11:10 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.80	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
RS 1 (MKJ0198-05) Water Sampled: 10/09/01 10:45 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15031	10/15/01	10/15/01	EPA 7470A	
Lead	ND	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	

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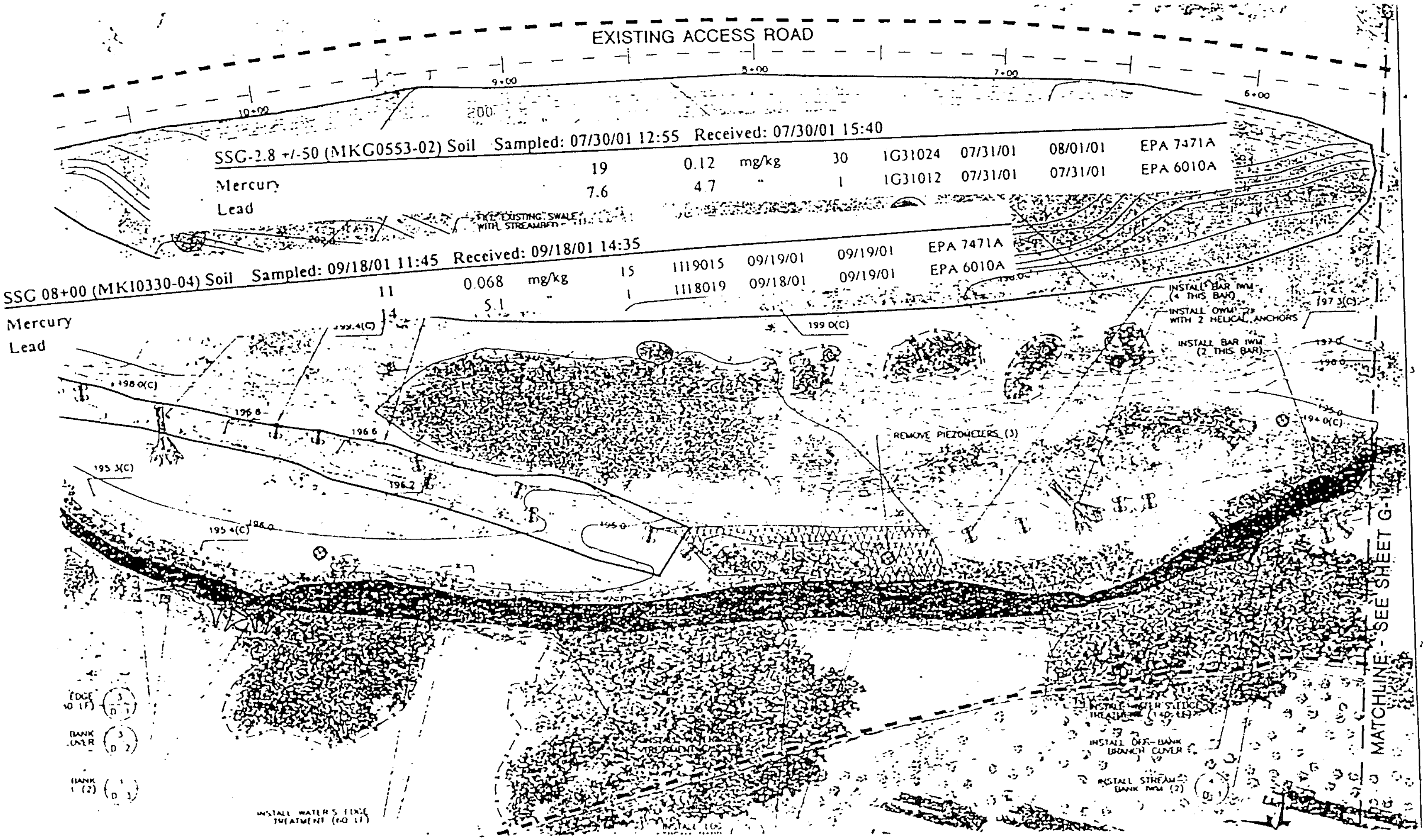
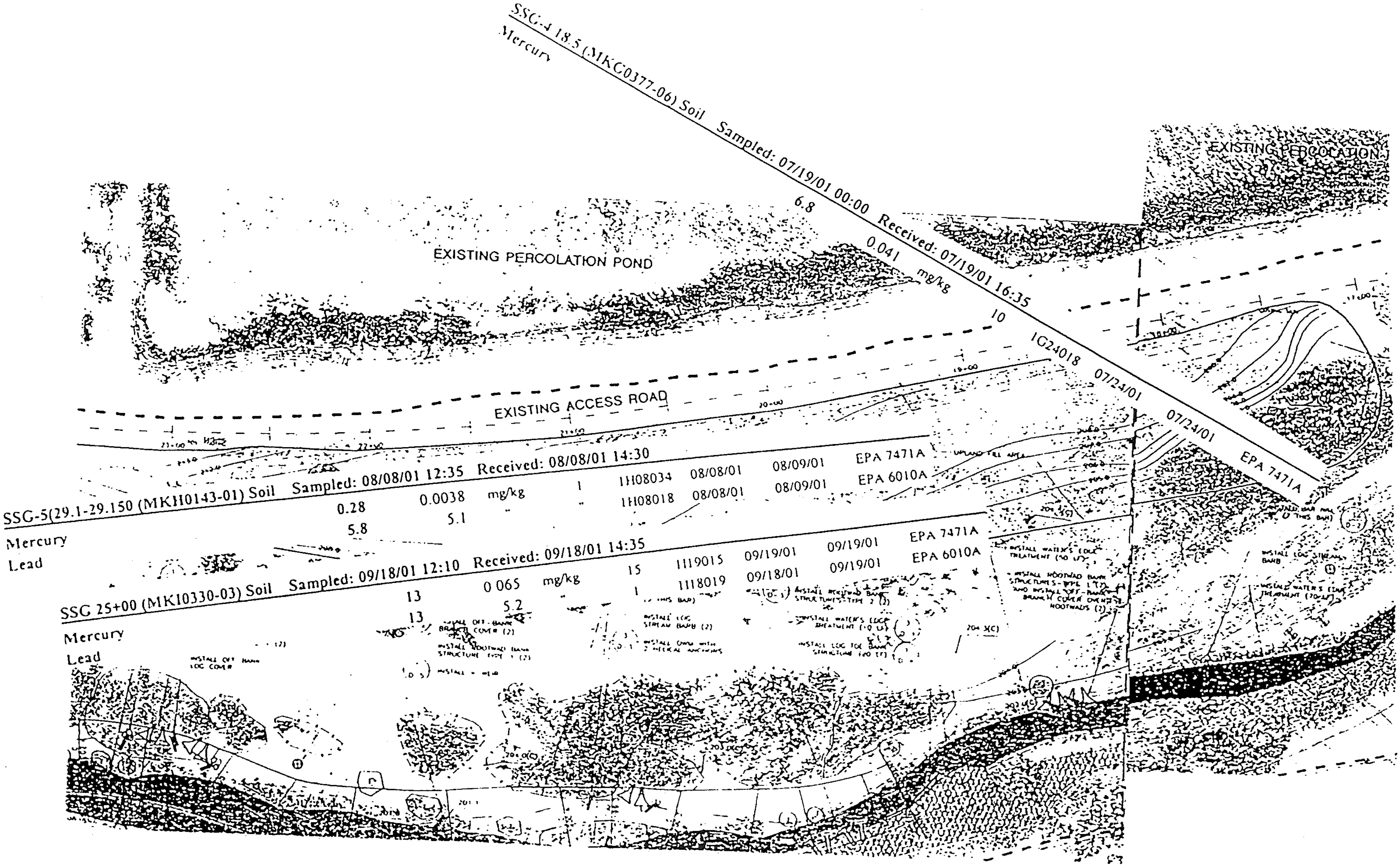

EXISTING ACCESS ROAD
10+00
9+00
8+00
7+00
6+00
200
202.0
FILL EXISTING SWALE WITH STREAMBED
199.4(C)
199.0(C)
198.0(C)
196.8
196.6
196.2
196.0
195.4(C)
195.3(C)
195.0
197.3(C)
197.0
196.0
195.0
194.0(C)
INSTALL BAR IWM (4 THIS BAR)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
REMOVE PIEZOMETERS (3)
INSTALL WATER'S EDGE TREATMENT (140 LF)
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM BANK IWM (2)
4
D 1
EDGE 30 LF)
3
D 1
BANK OVER
3
D 2
BANK (2)
1
D 3
INSTALL WATER'S EDGE TREATMENT (60 LF)
INSTALL LOG
MATCHLINE - SEE SHEET G-

SSG-2.8 +/-50 (MKG0553-02) Soil Sampled: 07/30/01 12:55 Received: 07/30/01 15:40

Mercury	19	0.12	mg/kg	30	1G31024	07/31/01	08/01/01	EPA 7471A
Lead	7.6	4.7	"	1	1G31012	07/31/01	07/31/01	EPA 6010A

SSG 08+00 (MK10330-04) Soil Sampled: 09/18/01 11:45 Received: 09/18/01 14:35

Mercury	11	0.068	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A
Lead	14	5.1	"	1	1118019	09/18/01	09/19/01	EPA 6010A


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
EXISTING PERCOLATION
UPLAND FILL AREA
INSTALL OFF-BANK LOG COVER
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL ROOTWAD BANK STRUCTURE TYPE 1 (2)
INSTALL LOG STREAM BARB (2)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL ROOTWAD BANK STRUCTURES-TYPE 2 (2)
INSTALL WATER'S EDGE TREATMENT (10 LF)
INSTALL LOG TOE BANK STRUCTURE (20 LF)
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2) AND INSTALL OFF-BANK BRANCH COVER OVER THE ROOTWADS (2)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (70 LF)
204.3(C)
20+00
21+00
22+00
19+00
17+00

SSG-4 18.5 (MKC0377-06) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35

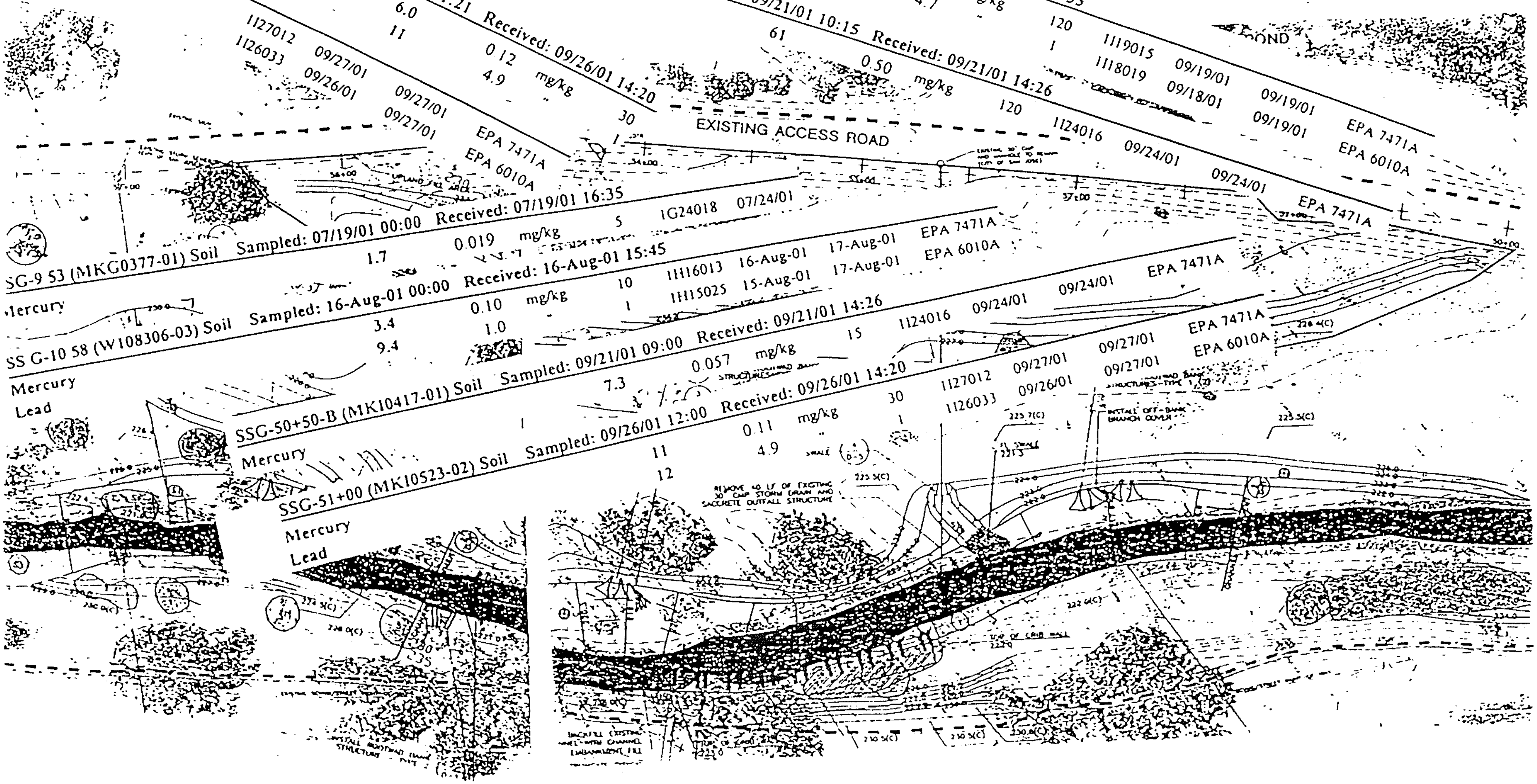
Mercury	6.8	0.041	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A

SSG-5(29.1-29.150 (MKH0143-01) Soil Sampled: 08/08/01 12:35 Received: 08/08/01 14:30

Mercury	0.28	0.0038	mg/kg	1	1H08034	08/08/01	08/09/01	EPA 7471A
Lead	5.8	5.1	"	"	1H08018	08/08/01	08/09/01	EPA 6010A

SSG 25+00 (MK10330-03) Soil Sampled: 09/18/01 12:10 Received: 09/18/01 14:35

Mercury	13	0.065	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A
Lead	13	5.2	"	1	1118019	09/18/01	09/19/01	EPA 6010A


EXISTING ACCESS ROAD
POND
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
INSTALL OFF-BANK BRANCH COVER
TOP OF CRIB WALL 222.0
225.7(C)
225.5(C)
222.6(C)
223.5(C)
220.0(C)
230.5(C)
SWALE

SSG 50+50 (MK10330-01) Soil Sampled: 09/18/01 10:30 Received: 09/18/01 14:35

Mercury	50	0.42	mg/kg	120	1119015	09/19/01	09/19/01	EPA 7471A
Lead	8.1	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A

SSG-50+50-C (MK10417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26

Mercury	61	0.50	mg/kg	120	1124016	09/24/01	09/24/01	EPA 7471A

SSG-55+00 (MK10523-01) Soil Sampled: 09/26/01 11:21 Received: 09/26/01 14:20

Mercury	6.0	0.12	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A
Lead	11	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A

SSG-9 53 (MKG0377-01) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35

Mercury	1.7	0.019	mg/kg	5	1G24018	07/24/01

SS G-10 58 (W108306-03) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45

Mercury	3.4	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A
Lead	9.4	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A

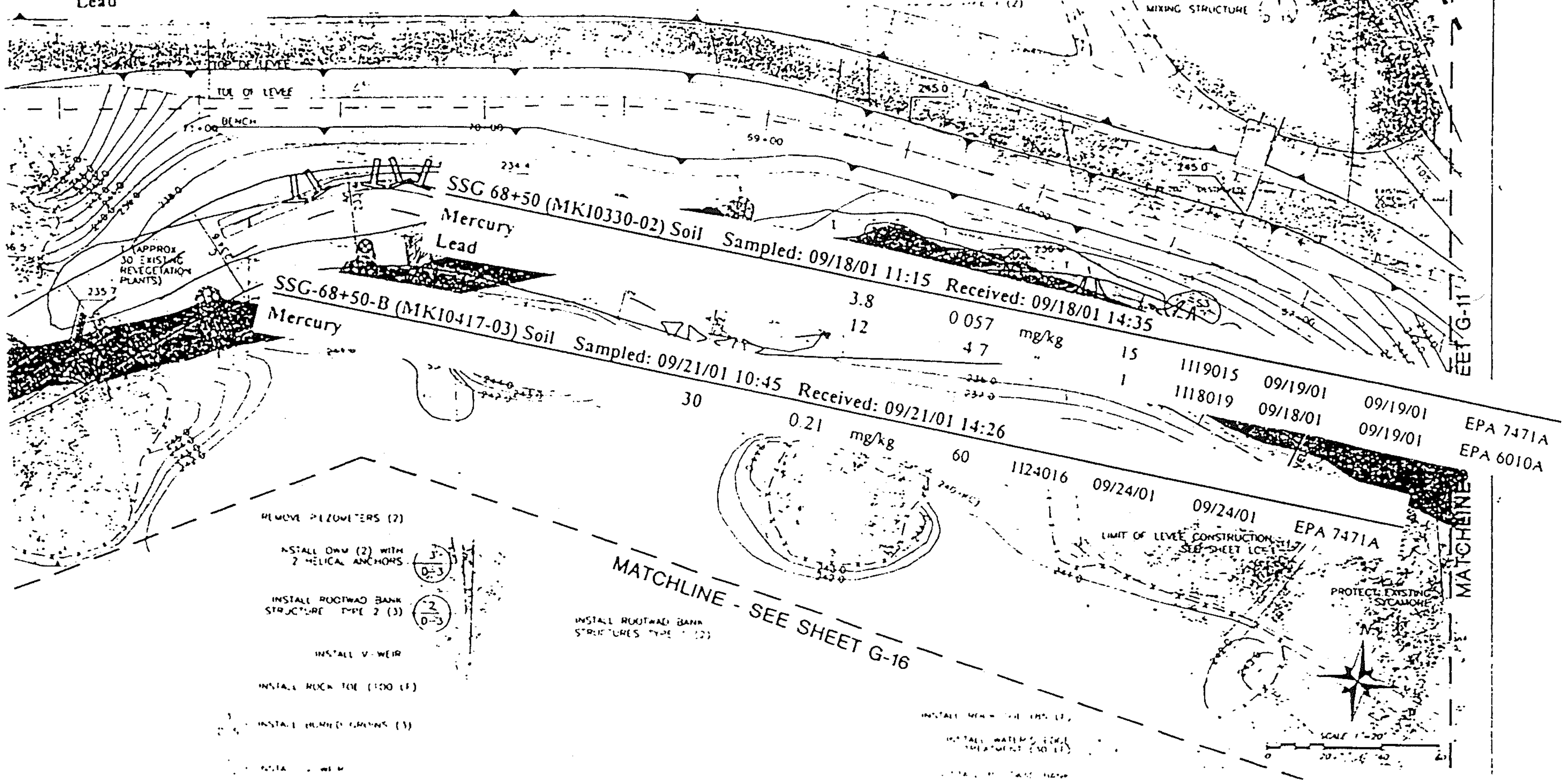
SSG-50+50-B (MK10417-01) Soil Sampled: 09/21/01 09:00 Received: 09/21/01 14:26

Mercury	7.3	0.057	mg/kg	15	1124016	09/24/01	09/24/01	EPA 7471A

SSG-51+00 (MK10523-02) Soil Sampled: 09/26/01 12:00 Received: 09/26/01 14:20

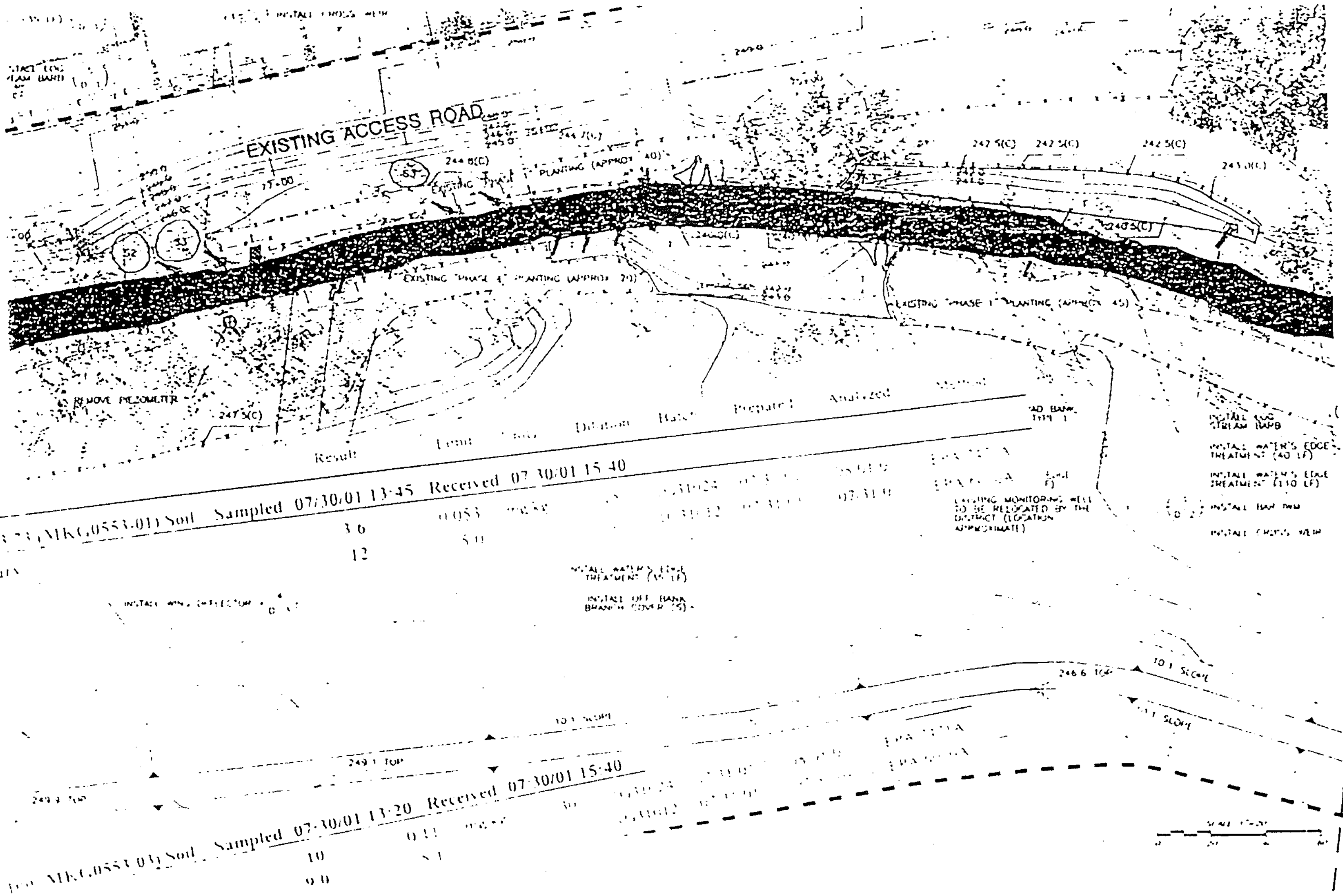
Mercury	11	0.11	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A
Lead	12	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
SS G-12 72 (W108306-01) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45								
Mercury	3.2	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A
SS G-12 68 (W108306-02) Soil Sampled: 16-Aug-01 00:00 Received: 16-Aug-01 15:45								
Mercury	3.8	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A



SSG 68+50 (MK10330-02) Soil Sampled: 09/18/01 11:15 Received: 09/18/01 14:35								
Mercury	3.8	0.057	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A
Lead	12	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A
SSG-68+50-B (MK10417-03) Soil Sampled: 09/21/01 10:45 Received: 09/21/01 14:26								
Mercury	30	0.21	mg/kg	60	1124016	09/24/01	09/24/01	EPA 7471A

REMOVE RISER AN ON EXISTI JUNCTION
TOP OF LEVEE
TOE OF LEVEE
BENCH
59+00
245.0
234.4
235.7
APPROX 30 EXISTING REVEGETATION PLANTS)
MIXING STRUCTURE
EXISTING SCREW LEVEE TRENCH
SHEET G-11
MATCHLINE
MATCHLINE - SEE SHEET G-16
LIMIT OF LEVEE CONSTRUCTION SEE SHEET LC-1
PROTECT EXISTING SYCAMORE
REMOVE PIEZOMETERS (2)
INSTALL DWM (2) WITH 2 HELICAL ANCHORS
3 / D-3
INSTALL ROOTWAD BANK STRUCTURE TYPE 2 (3)
2 / D-3
INSTALL V-WEIR
INSTALL ROCK TOE (100 LF)
INSTALL BURIED GROINS (3)
INSTALL ROOTWAD BANK STRUCTURES TYPE 1 (2)
SCALE 1"=20'


EXISTING ACCESS ROAD
INSTALL CROSS WEIR
244.8(C)
PLANTING (APPROX 40)
242.5(C)
242.5(C)
242.5(C)
243.0(C)
240.5(C)
EXISTING PHASE 1 PLANTING (APPROX 20)
EXISTING PHASE 1 PLANTING (APPROX 45)
REMOVE PIEZOMETER
247.5(C)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
INSTALL BAR DWM
INSTALL CROSS WEIR
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF BANK BRANCH COVER (5)
INSTALL WING DEFLECTOR
246.6 TOP
10:1 SLOPE
10:1 SLOPE
249.1 TOP
249.4 TOP
10:1 SLOPE

Analyte Result Limit Units Dilution Batch Prepared Analyzed Method

SSG-1373 (MKG0553-01) Soil Sampled 07/30/01 13:45 Received 07/30/01 15:40

Mercury 3.6 0.053 mg/kg 07/31/01 EPA 7471A

Lead 12 5.0 07/31/01 EPA 6010A

SSG-13 (MKG0553-03) Soil Sampled 07/30/01 13:20 Received 07/30/01 15:40

Mercury 10 0.11 mg/kg EPA 7471A

Lead 9.0 5.1 EPA 6010A

SSC-1723 (MKG0377-04) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35

Mercury 1.7 0.010 mg/kg 07/24

SSC-1723W (MKG0377-05) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35

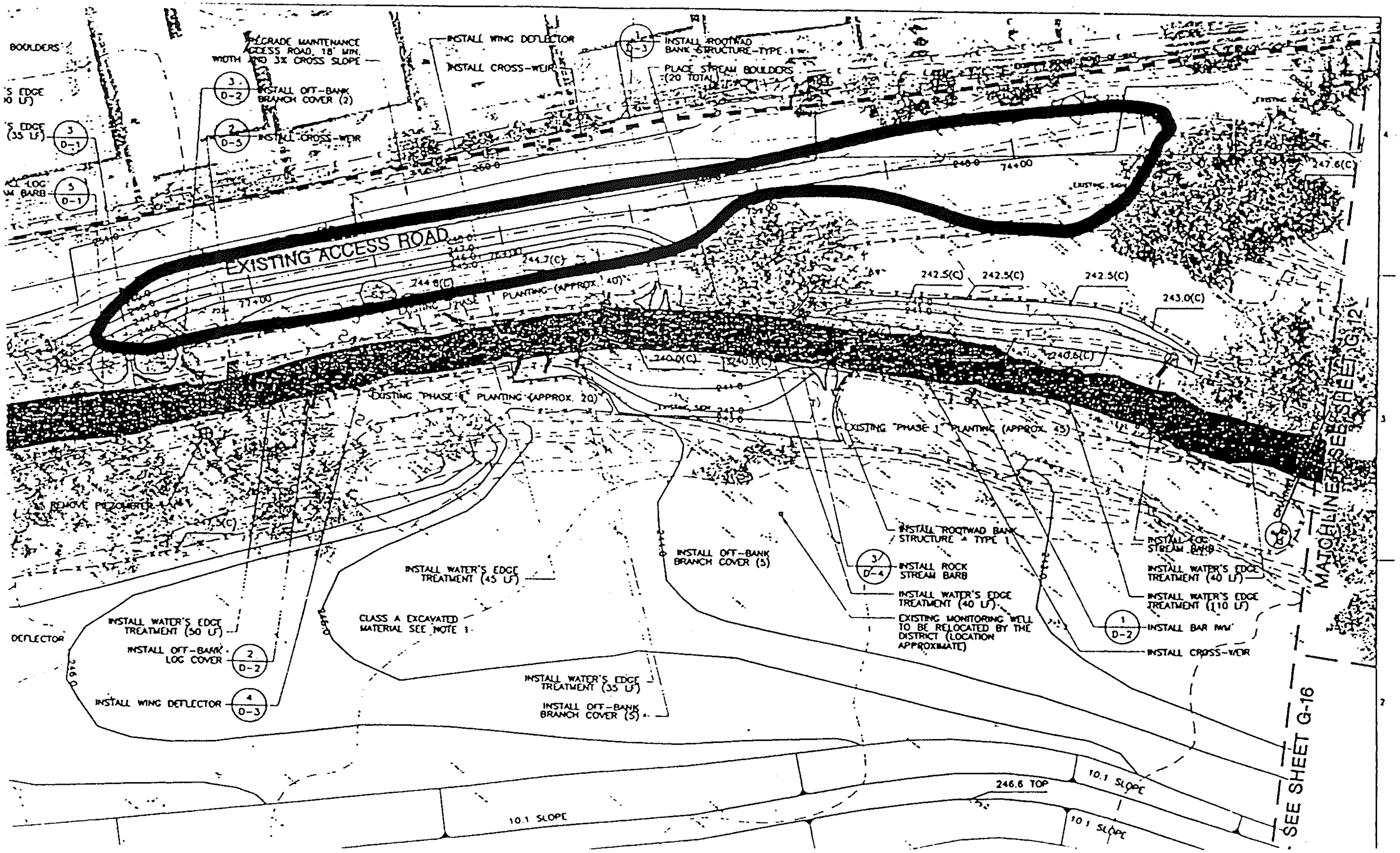
Mercury 1.1 0.0079 mg/kg 2 07/24 07/24

DRAFT: SSG-1377 A (MKJ0198-01) Soil Sampled: 10/09/01 10:30 Received: 10/09/01 12:25

Mercury	56	0.48	mg/kg	120	1J10016	10/10/01	10/10/01	EPA 7471A
Lead	18	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A

DRAFT: SSG-1377 B (MKJ0198-02) Soil Sampled: 10/09/01 10:40 Received: 10/09/01 12:25

Mercury	20	0.24	mg/kg	60	1J10016	10/10/01	10/10/01	EPA 7471A
Lead	20	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A


BOULDERS
S EDGE
0 LF)
S EDGE (35 LF)
3 D-1
CL LOG
M BARB
5 D-1
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN. WIDTH AND 3% CROSS SLOPE
3 D-2 INSTALL OFF-BANK BRANCH COVER (2)
2 D-5 INSTALL CROSS-WEIR
INSTALL WING DEFLECTOR
INSTALL CROSS-WEIR
1 D-3 INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
PLACE STREAM BOULDERS (20 TOTAL)
EXISTING ACCESS ROAD
244.7(C)
244.6(C)
77+00
74+00
240.0
247.6(C)
EXISTING PHASE 1 PLANTING (APPROX. 40)
242.5(C)
242.5(C)
242.5(C)
243.0(C)
240.0(C)
240.0(C)
240.6(C)
EXISTING PHASE 1 PLANTING (APPROX. 20)
EXISTING PHASE 1 PLANTING (APPROX. 45)
REMOVE PIEZOMETER
247.5(C)
DEFLECTOR
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK LOG COVER 2 D-2
INSTALL WING DEFLECTOR 4 D-3
246.0
INSTALL WATER'S EDGE TREATMENT (45 LF)
CLASS A EXCAVATED MATERIAL SEE NOTE 1
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1
3 D-4 INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
1 D-2 INSTALL BAR
INSTALL CROSS-WEIR
MATCHLINE SEE SHEET G-12
SEE SHEET G-16
246.6 TOP
10:1 SLOPE
10:1 SLOPE
10:1 SLOPE

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

27 July, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE: Ferma
Sequoia Report: MKG0377

Enclosed are the results of analyses for samples received by the laboratory on 07/19/01 16:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron Porter
Project Manager

CA ELAP Certificate #1210

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Morgan Hill, CA 95037
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Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: Ferma
Project Number: Guadalupe Creek (11823-01)
Project Manager: Mark Abu-Tair

Reported:
07/27/01 10:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-9 53	MKG0377-01	Soil	07/19/01 00:00	07/19/01 16:35
SSG-5 27	MKG0377-02	Soil	07/19/01 00:00	07/19/01 16:35
SSG-4 22 5	MKG0377-03	Soil	07/19/01 00:00	07/19/01 16:35
SSG-13 72 F	MKG0377-04	Soil	07/19/01 00:00	07/19/01 16:35
SSG-13 72 W	MKG0377-05	Soil	07/19/01 00:00	07/19/01 16:35
SSG-4 18 5	MKG0377-06	Soil	07/19/01 00:00	07/19/01 16:35
RWG-1372 75	MKG0377-07	Water	07/19/01 00:00	07/19/01 16:35

Sequoia Analytical - Morgan Hill

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A. Porter
Aaron Porter, Project Manager

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: Ferma
Project Number: Guadalupe Creek (11823-01)
Project Manager: Mark Abu-Tair

Reported:
07/27/01 10.49

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-9 53 (MKG0377-01) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.7	0.019	mg/kg	5	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-5 27 (MKG0377-02) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	9.5	0.044	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-4 22.5 (MKG0377-03) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	3.9	0.045	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-13 72 F (MKG0377-04) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.7	0.019	mg/kg	5	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-13 72 W (MKG0377-05) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	1.1	0.0079	mg/kg	2	1G24018	07/24/01	07/24/01	EPA 7471A	
SSG-4 18.5 (MKG0377-06) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	6.8	0.041	mg/kg	10	1G24018	07/24/01	07/24/01	EPA 7471A	
G- 1372.75 (MKG0377-07) Water Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Mercury	ND	0 00020	mg/l	1	1G25012	07/25/01	07/25/01	EPA 7470A	

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: Ferma Project Number: Guadalupe Creek (11823-01) Project Manager: Mark Abu-Tair	Reported: 07/27/01 10:49

Total Metals by EPA 200 Series Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RWG- 1372.75 (MKG0377-07) Water	**Sampled: 07/19/01 00:00**	**Received: 07/19/01 16:35**							
Lead	ND	75	ug/l	1	1070647	07/25/01	07/26/01	EPA 200.7	

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Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: Ferma
Project Number: Guadalupe Creek (11823-01)
Project Manager: Mark Abu-Tair

Reported:
07/27/01 10:49

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-9 53 (MKG0377-01) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	17	7.1	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-5 27 (MKG0377-02) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.8	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-4 22.5 (MKG0377-03) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.6	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-13 72 F (MKG0377-04) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	ND	6.9	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-13 72 W (MKG0377-05) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	11	6.5	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	
SSG-4 18.5 (MKG0377-06) Soil Sampled: 07/19/01 00:00 Received: 07/19/01 16:35									
Lead	11	6.6	mg/kg	1	1070624	07/25/01	07/25/01	EPA 6010B	

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: Ferma Project Number: Guadalupe Creek (11823-01) Project Manager: Mark Abu-Tair	Reported: 07/27/01 10:49

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G24018 - EPA 7471A										
Blank (1G24018-BLK1)				Prepared & Analyzed: 07/24/01						
Mercury	ND	0.0040	mg/kg							
LCS (1G24018-BS1)				Prepared & Analyzed: 07/24/01						
Mercury	0.669	0.0040	mg/kg	0.667		100	80-120			
Matrix Spike (1G24018-MS1)		Source: MKG0377-01		Prepared & Analyzed: 07/24/01						Q-20
Mercury	3.54	0.037	mg/kg	0.615	1.7	299	75-125			
Matrix Spike Dup (1G24018-MSD1)		Source: MKG0377-01		Prepared & Analyzed: 07/24/01						Q-20
Mercury	1.74	0.022	mg/kg	0.727	1.7	5.50	75-125	68.2	20	
Batch 1G25012 - EPA 7470A										
Blank (1G25012-BLK1)				Prepared & Analyzed: 07/25/01						
Mercury	ND	0.00020	mg/l							
LCS (1G25012-BS1)				Prepared & Analyzed: 07/25/01						
Mercury	0.00827	0.00020	mg/l	0.00800		103	80-120			
Matrix Spike (1G25012-MS1)		Source: MKG0377-07		Prepared & Analyzed: 07/25/01						
Mercury	0.00822	0.00020	mg/l	0.00800	ND	103	75-125			
Matrix Spike Dup (1G25012-MSD1)		Source: MKG0377-07		Prepared & Analyzed: 07/25/01						
Mercury	0.00832	0.00020	mg/l	0.00800	ND	104	75-125	1.21	20	

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: Ferma Project Number: Guadalupe Creek (11823-01) Project Manager: Mark Abu-Tair	Reported: 07/27/01 10:49

Total Metals by EPA 200 Series Methods - Quality Control
Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070647 - EPA 3010A										
Blank (1070647-BLK1)				Prepared: 07/25/01 Analyzed: 07/26/01						
Lead	ND	75	ug/l							
LCS (1070647-BS1)				Prepared: 07/25/01 Analyzed: 07/26/01						
Lead	1010	75	ug/l	1000		101	85-115			
Matrix Spike (1070647-MS1)	Source: P107469-01			Prepared: 07/25/01 Analyzed: 07/26/01						
Lead	1010	75	ug/l	1000	ND	101	75-125			
Matrix Spike Dup (1070647-MSD1)	Source: P107469-01			Prepared: 07/25/01 Analyzed: 07/26/01						
Lead	1010	75	ug/l	1000	ND	101	75-125	0.00	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: Ferma
Project Number: Guadalupe Creek (11823-01)
Project Manager: Mark Abu-Tair

Reported:
07/27/01 10:49

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070624 - EPA 3050B										
Blank (1070624-BLK1)				Prepared & Analyzed: 07/25/01						
Lead	ND	7.5	mg/kg							
LCS (1070624-BS1)				Prepared & Analyzed: 07/25/01						
Lead	52.2	7.5	mg/kg	50.0		104	80-120			
Matrix Spike (1070624-MS1)	Source: MKG0377-01			Prepared & Analyzed: 07/25/01						
Lead	46.0	5.8	mg/kg	38.5	17	75.3	75-125			
Matrix Spike Dup (1070624-MSD1)	Source: MKG0377-01			Prepared & Analyzed: 07/25/01						
Lead	57.2	6.9	mg/kg	46.3	17	86.8	75-125	21.7	35	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: Ferma
Project Number: Guadalupe Creek (11823-01)
Project Manager: Mark Abu-Tair

Reported:
07/27/01 10:49

Notes and Definitions

Q-20	The spike recoveries for the MS/MSD are outside established control limits, due to the non-homogenous nature of the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

TETRA TECH, INC.

TETRA TECH, INC.
180 Howard Street, Suite 250
San Francisco, CA 94105-1661
Telephone (415) 974-1221
Fax (415) 974-5914

Mark Abu-TAIR

CHAIN OF CUSTODY

MKG0377

Client Ferma Corporation	Contact Mark Abu-Tair	Phone # (650) 245-1523	FAX#
Address 1265 Montecito Ave, Suite 200	City Mountain View	State CA	ZIP 94043
Project Name/Number Guadalupe Creek (11823-01)	Project Manager Karen Summers	Destination Lab Sequoia Laboratory	
Sampler (Print and sign) T. Gruner T. Gruner	Due Date (circle one) STANDARD RUSH	Copies To:	Auth. Init.
Sample Date: 7/19/2001			

ANALYTICAL PROCEDURES

Sample Description	Time	*Media	# of Containers	Pres.	Filt. y/n	Tot Mercury EPA 7471A Cold Vapor	Tot Lead (6000/7000 ICP)	Depth (feet)	Date	Remarks	Lab ID #
SSG-9 5.3		S	1	-	-	x	x				
SSG-5 2.7		S	1	✓	-	x	x				
SSG-4 22.5		S	1	-	-	x	x				
SSG-1372 F		S	1	-	-	x	x				
SSG-1372 W		S	1	-	-	x	x				
SSG-4 18.5		S	1	-	-	x	x				
		S									
		S									
		S									
		S									
		S									
RWG-1372.75		AW	1	-	-	x	x			Rinse Water Rounie glass jar	

Relinquished by	Time	Date	Relinquished by	Time	Date
T. Gruner	16:30	7/19		1635	7/19/01
Shipping Method	Shipping #	Received By	Date/Time	Condition (See Remarks)	
				Cold / Sealed / Intact	

REMARKS

*MEDIA CODE

Soil	S	Surface Water	SW
Wipe	F	Ground Water	GW
Wood	WO		
Sludge	SL		
Soil Gas	SG		
Concrete	C		

① TC# 11823-01

7/19/01 Guadaloupe Creek Restoration Project
~~FETMA~~ 4ERMA corp. PM: Mark Abu-Tair (650) 245-1523

Soilsampling
- Sunny @ 10:08 am slight wind

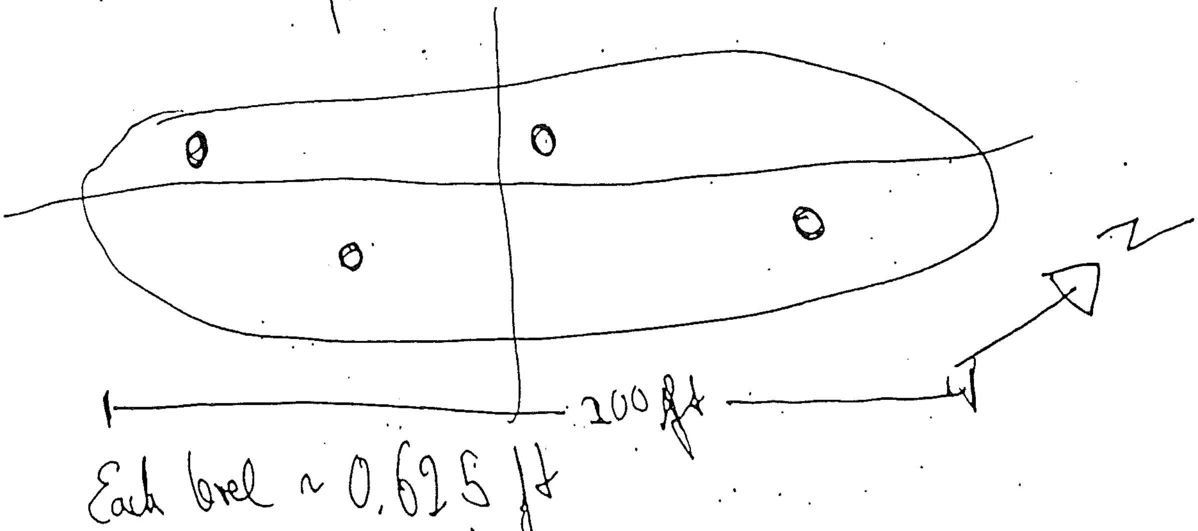
Mercury + lead sampling
Mercury: EPA 7471A Cold Vapor
Pb: EPA 6000/7000 ICP

Foreman: Ken

Cellphone min: ~~||||~~ ||||

Pile 1: station 53

SS G-9 53
L: ~200 ft.
H: ~2.5 ft.



Each level ~ 0.625 ft
0 = Sample location
Depth of samples ~ 1.25 ft

ect 245-1523

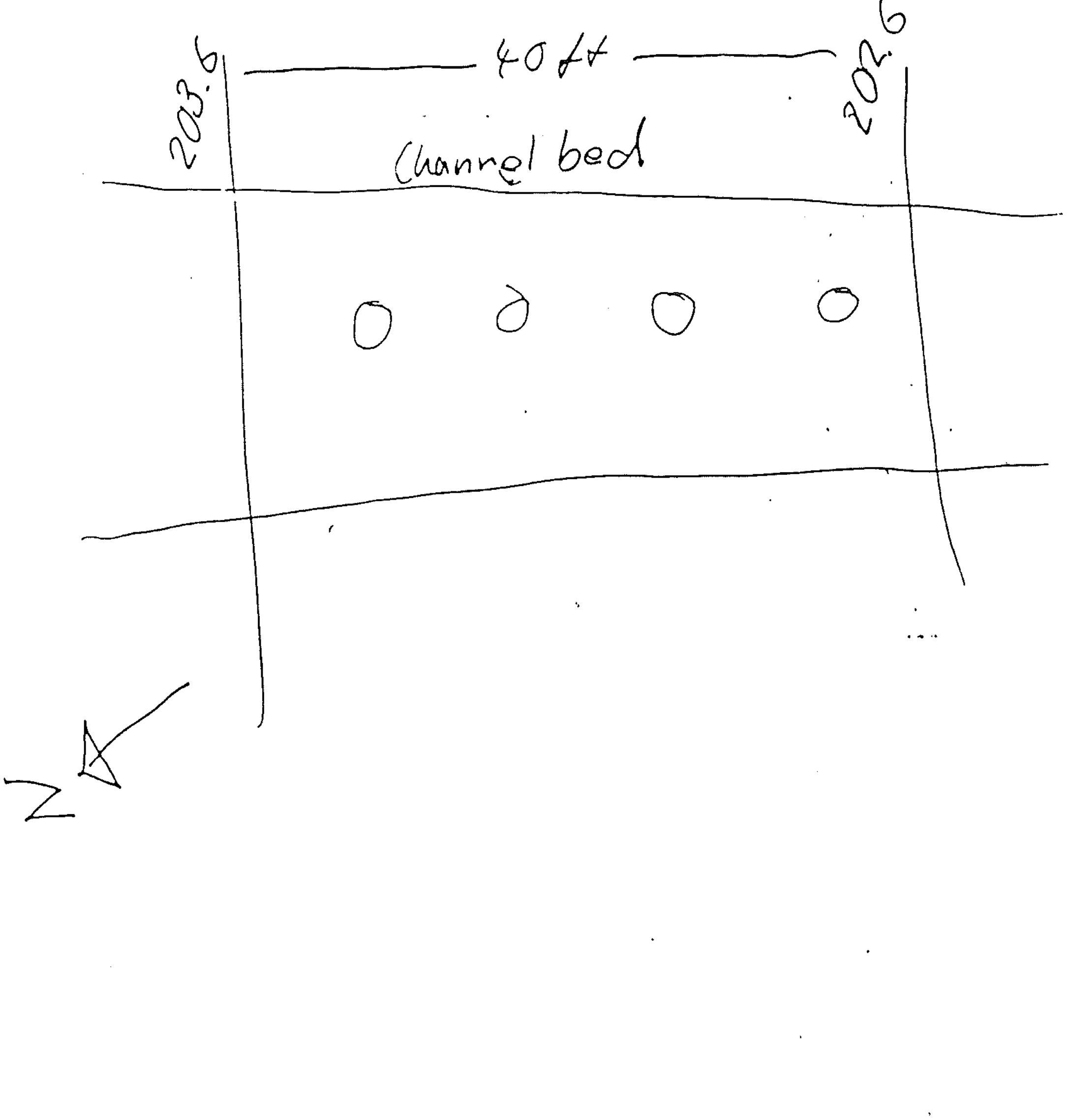
Excavation site. No pile existing

"PILE 2" Station 27

~~[illegible]~~ Channel not dug out. Took samples in channel bed before excavation.

SS G-527

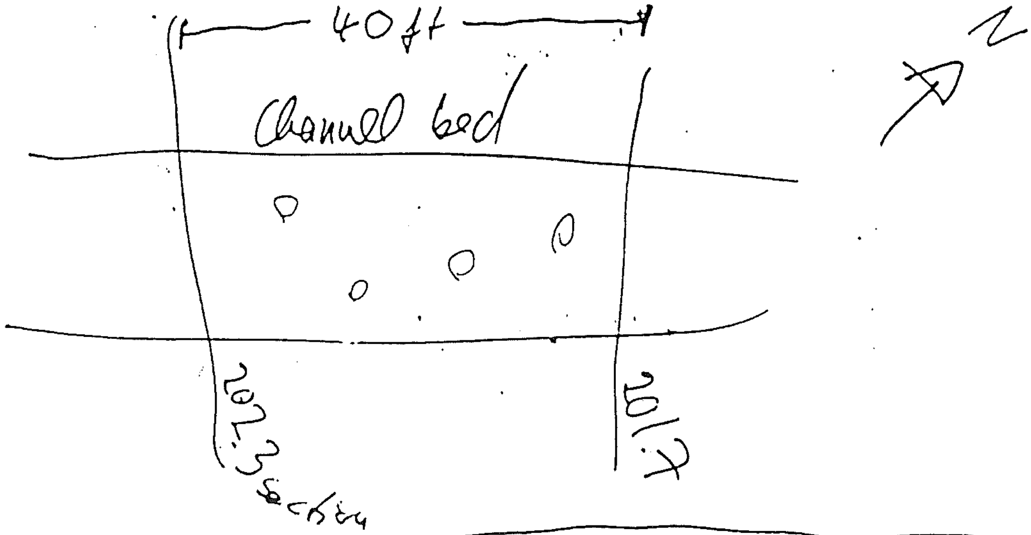
X ||||



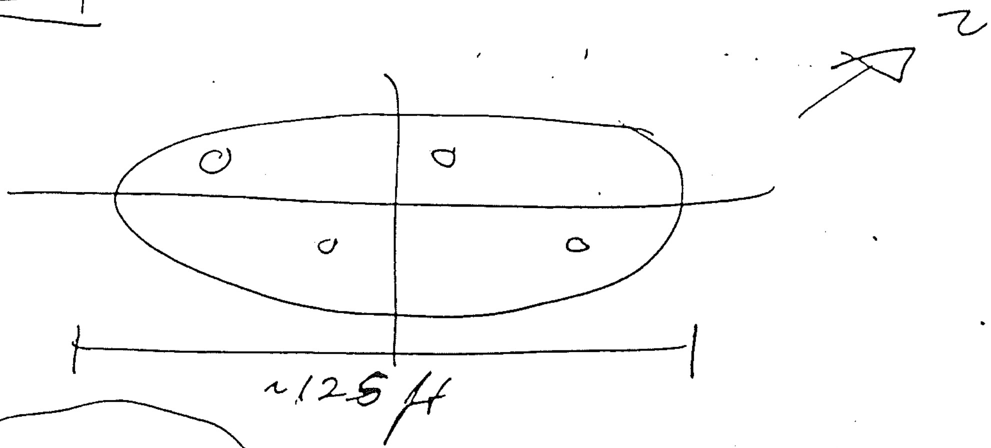
③ Excavation site : No pile existing yet.

"PILE 3" : STATION 22.5

SS G-4 22.5



PILE 4 Station 18.5



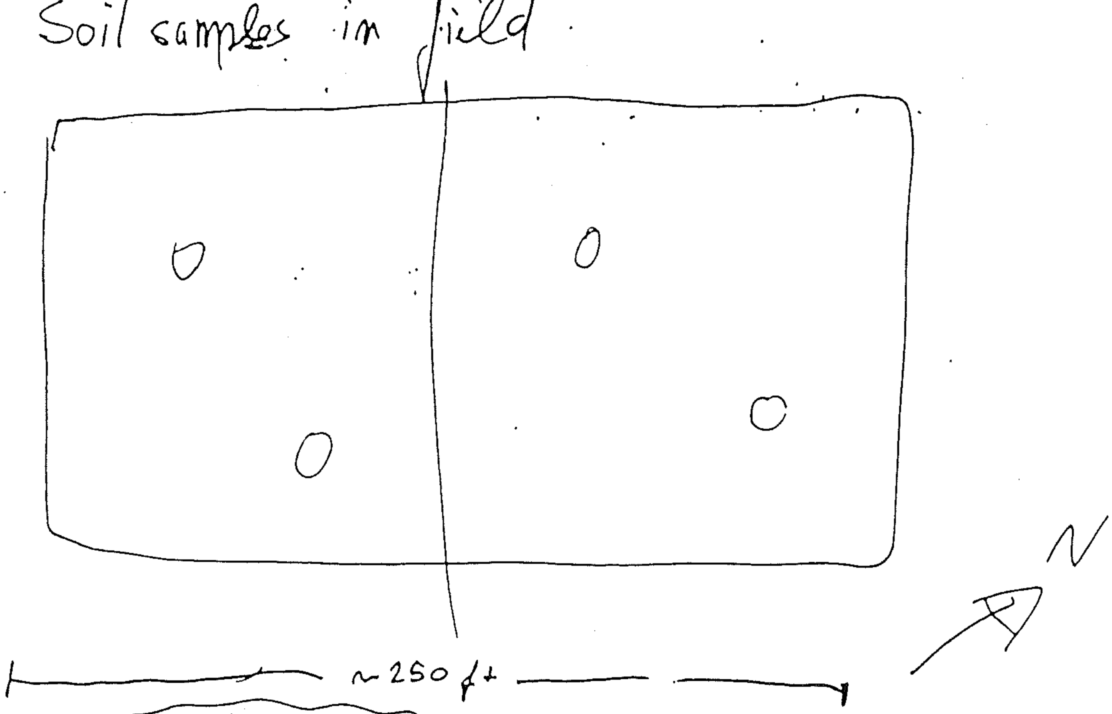
SS G-4 18.5

RWG-1372.75 → Rinse water sample.

FIELD : Sample loc. 5. Station 72.75

SSG-13 72.~~75~~F

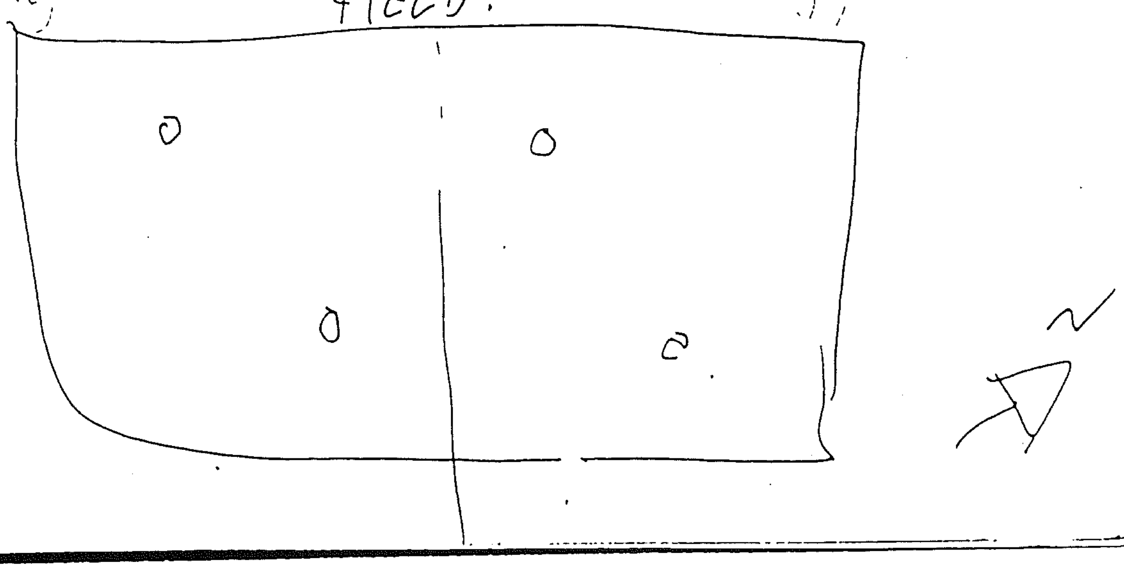
Soil samples in field



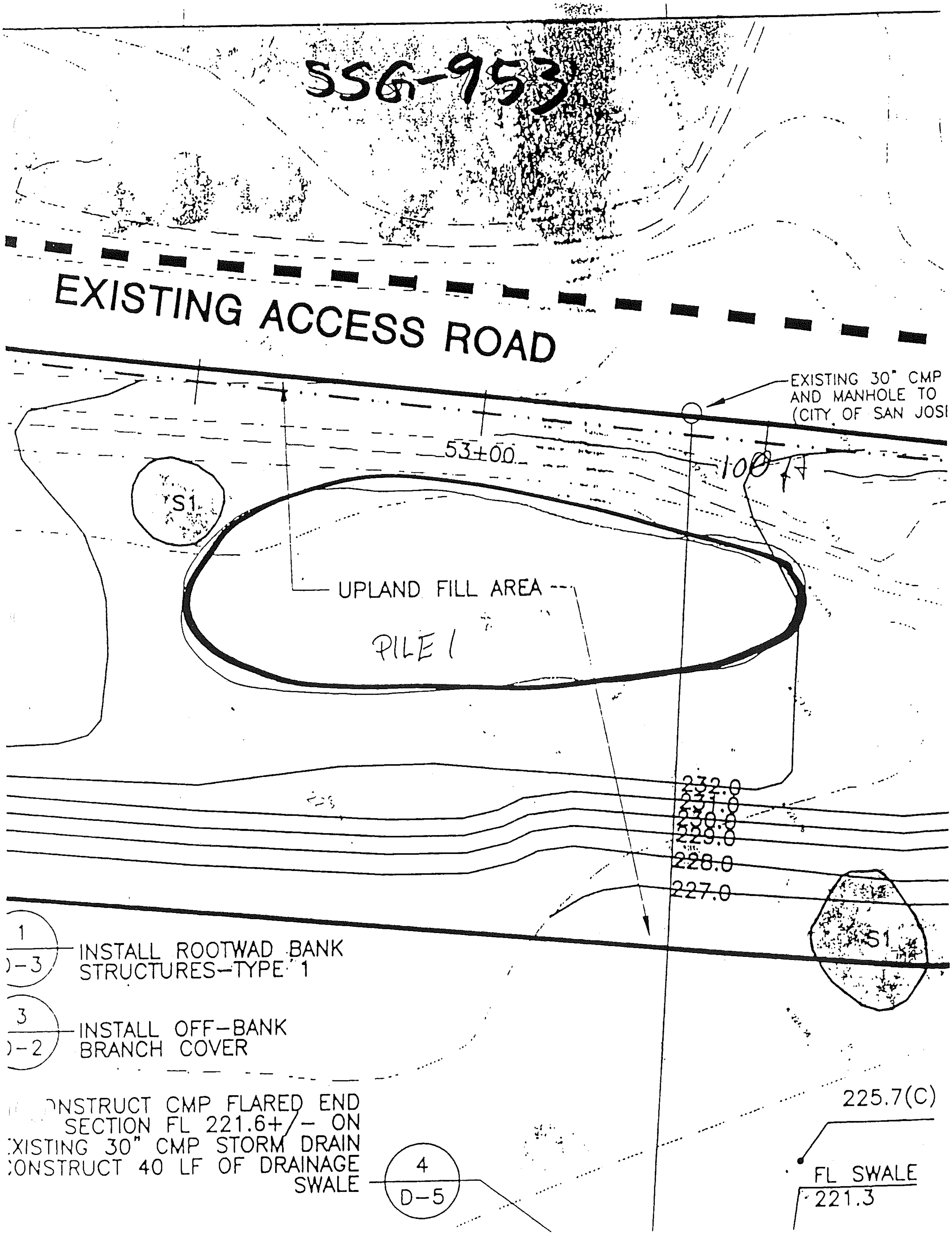
SSG-13 72.~~75~~W A+B

Soil samples in windrows

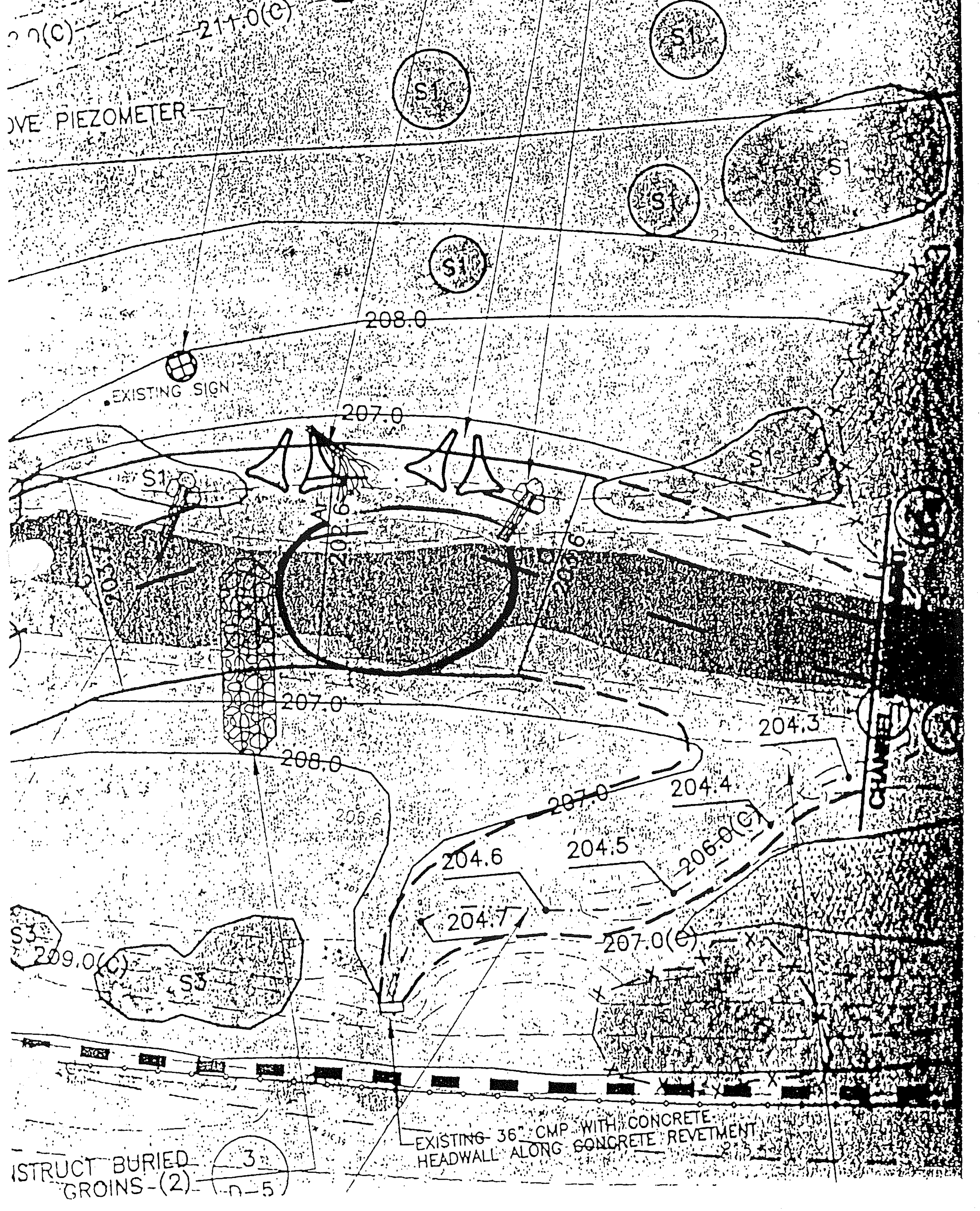
FIELD:



SSG-953

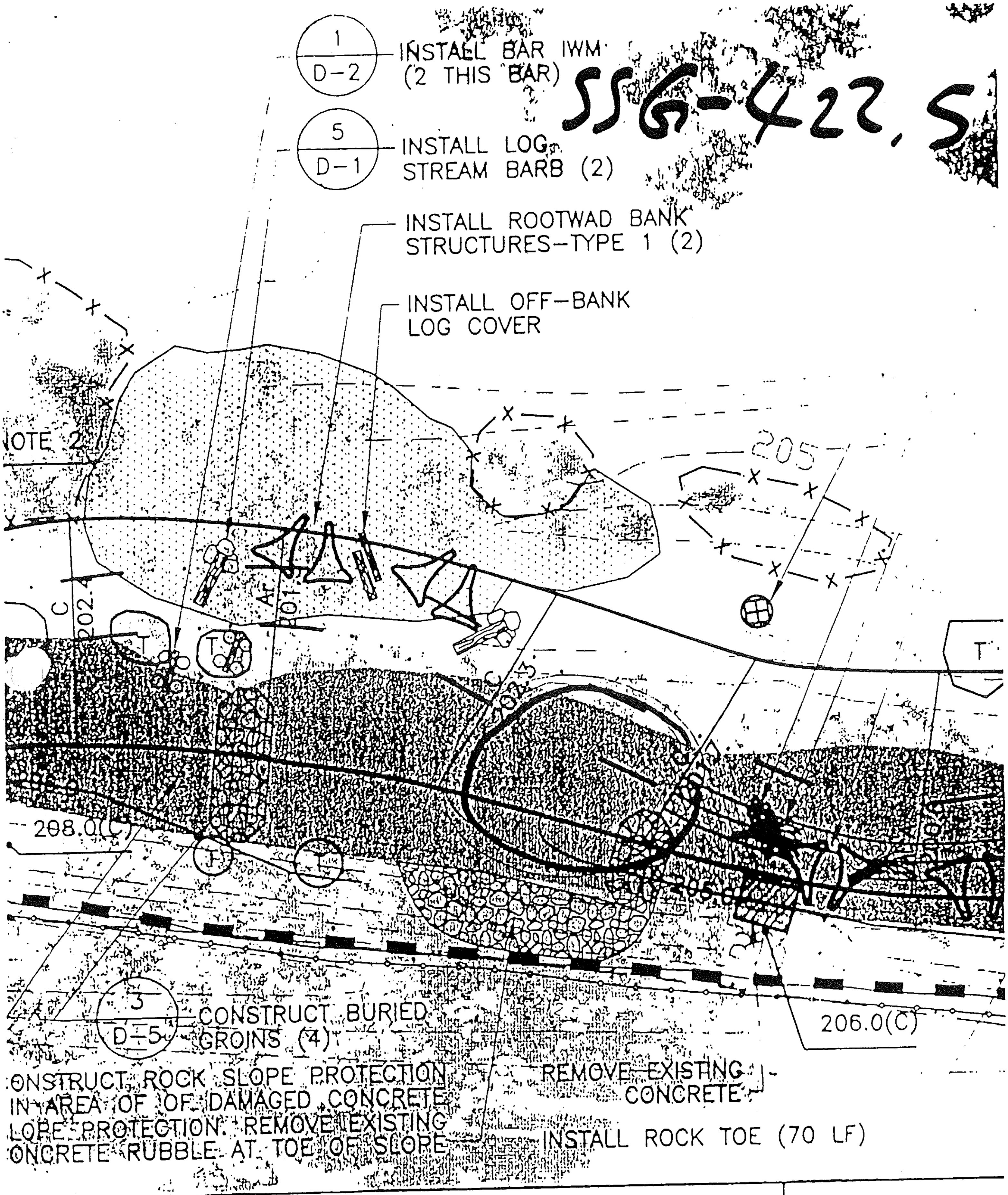

EXISTING ACCESS ROAD
EXISTING 30" CMP AND MANHOLE TO (CITY OF SAN JOSI
53+00
100
S1
UPLAND FILL AREA
PILE 1
232.0
231.0
230.0
229.0
228.0
227.0
S1
1
)-3
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1
3
)-2
INSTALL OFF-BANK BRANCH COVER
ONSTRUCT CMP FLARED END SECTION FL 221.6+/- ON
XISTING 30" CMP STORM DRAIN
ONSTRUCT 40 LF OF DRAINAGE SWALE
4
D-5
225.7(C)
FL SWALE
221.3

SSG-527



20(C)
211.0(C)
S1
S1
S1
S1
S1
OVE PIEZOMETER
208.0
EXISTING SIGN
207.0
S1
S1
206.6
206.6
207.0
208.0
206.6
207.0
204.3
204.4
204.5
204.6
204.7
206.0(C)
207.0(C)
CHANNEL
S3
209.0(C)
S3
EXISTING 36" CMP WITH CONCRETE
HEADWALL ALONG CONCRETE REVETMENT
ISTRUCT BURIED
GROINS-(2)
3
D-5

SSG-422, 5

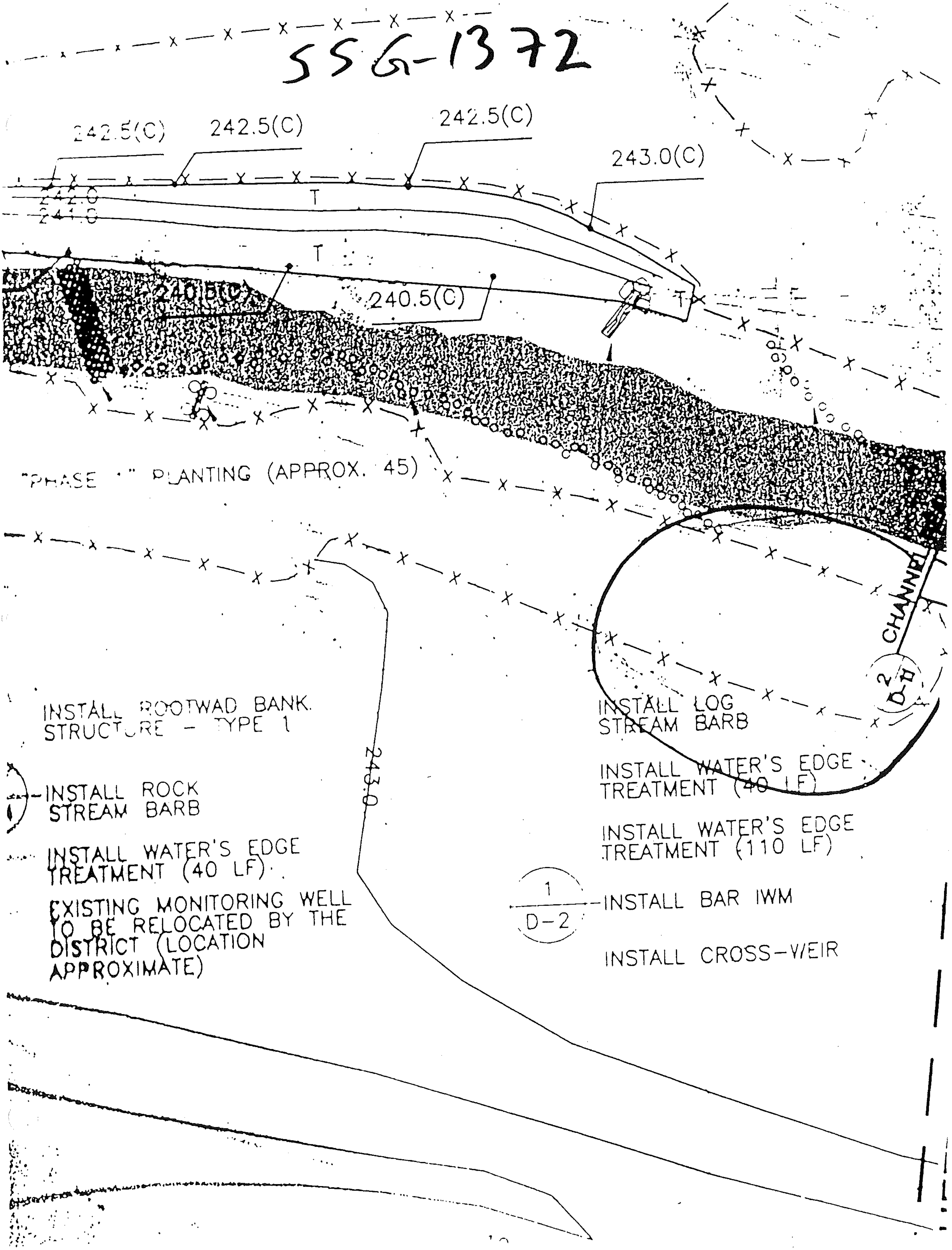


APPR

Jones & Stokes

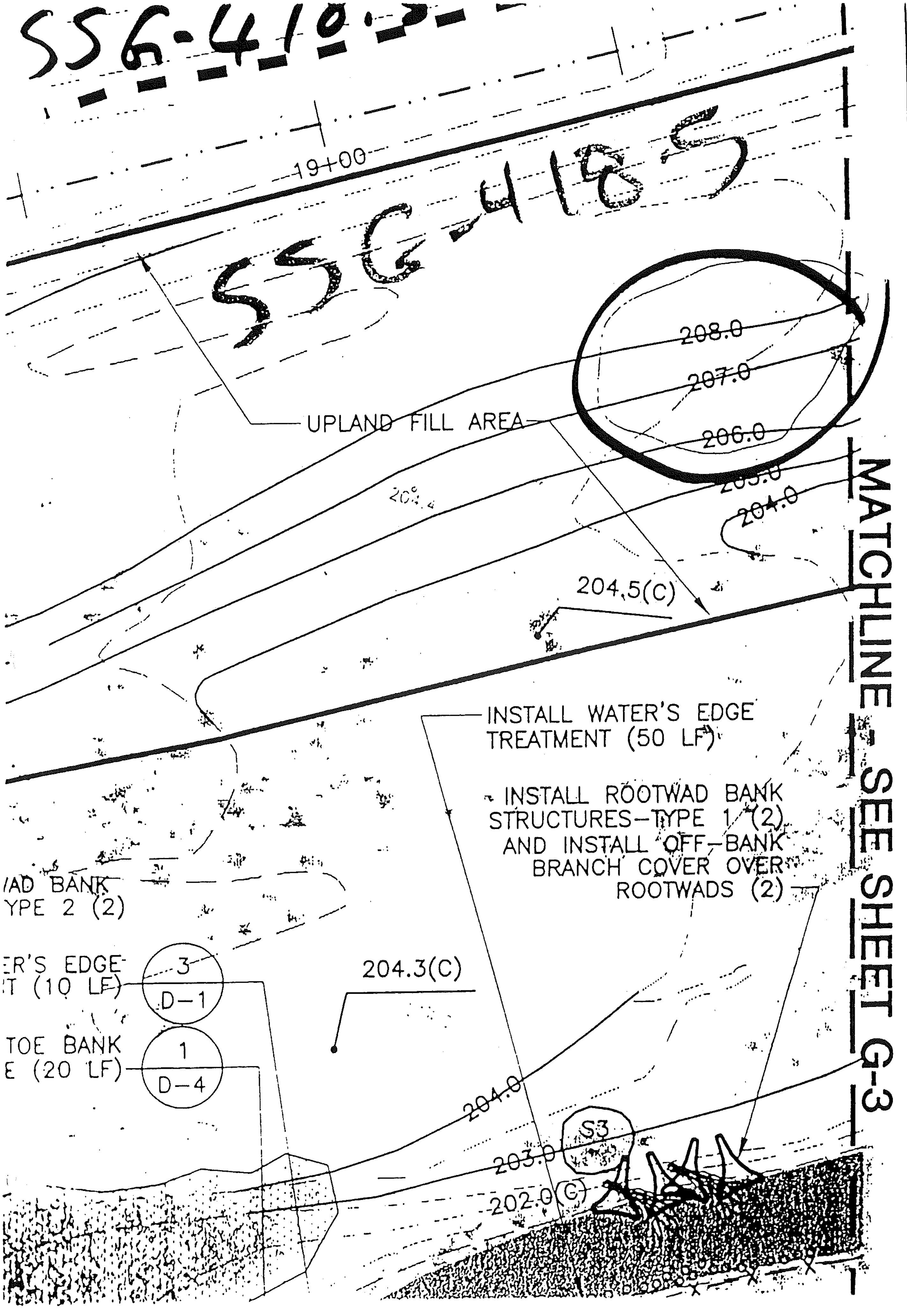
nhc
northwest hydraulic consultants, inc.

SSG-1372


242.5(C)
242.5(C)
242.5(C)
243.0(C)
242.0
241.0
T
T
T
240.5(C)
240.5(C)
"PHASE " PLANTING (APPROX. 45)
CHANNEL
2
D-2
243.0
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
1
D-2
INSTALL BAR IWM
INSTALL CROSS-WEIR

SSG-410.3

SSG-4185


19+00
UPLAND FILL AREA
208.0
207.0
206.0
205.0
204.0
204
204.5(C)
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2) AND INSTALL OFF-BANK BRANCH COVER OVER ROOTWADS (2)
MATCHLINE - SEE SHEET G-3
3
/AD BANK
YPE 2 (2)
ER'S EDGE
T (10 LF)
3
D-1
TOE BANK
E (20 LF)
1
D-4
204.3(C)
204.0
S3
203.0
202.0(C)

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

1 August, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE:
Sequoia Report: MKG0553

Enclosed are the results of analyses for samples received by the laboratory on 07/30/01 15:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron Porter
Project Manager

CA ELAP Certificate #1210

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	**Reported:** 08/01/01 12:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-13 73	MKG0553-01	Soil	07/30/01 13:45	07/30/01 15:40
SSG-2 S -·-50	MKG0553-02	Soil	07/30/01 12:55	07/30/01 15:40
SSG-13 S-·-100	MKG0553-03	Soil	07/30/01 13:20	07/30/01 15:40
R-1K	MKG0553-04	Water	07/30/01 14:10	07/30/01 15:40

juoia Analytical - Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Aaron Porter, Project Manager

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
08/01/01 12:17

Total Metals by EPA 200 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
R-1K (MKG0553-04) Water	**Sampled: 07/30/01 14:10**	**Received: 07/30/01 15:40**							
Lead	ND	0.10	mg/l	1	1G30025	07/30/01	07/31/01	EPA 200.7	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	Reported: 08/01/01 12:17

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-13.73 (MKG0553-01) Soil Sampled: 07/30/01 13:45 Received: 07/30/01 15:40									
Mercury	3.6	0.053	mg/kg	15	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	12	5.0	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
SSG-2.8 +/-50 (MKG0553-02) Soil Sampled: 07/30/01 12:55 Received: 07/30/01 15:40									
Mercury	19	0.12	mg/kg	30	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	7.6	4.7	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
SSG-13.8+/-100 (MKG0553-03) Soil Sampled: 07/30/01 13:20 Received: 07/30/01 15:40									
Mercury	10	0.11	mg/kg	30	1G31024	07/31/01	08/01/01	EPA 7471A	
Lead	9.0	5.1	"	1	1G31012	07/31/01	07/31/01	EPA 6010A	
R-1K (MKG0553-04) Water Sampled: 07/30/01 14:10 Received: 07/30/01 15:40									
Mercury	ND	0.00020	mg/l	1	1G31025	07/31/01	08/01/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	**Reported:** 08/01/01 12:17

Total Metals by EPA 200 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G30025 - EPA 3005A										
Blank (1G30025-BLK1)				Prepared: 07/30/01 Analyzed: 07/31/01						
Lead	ND	0.10	mg/l							
LCS (1G30025-BS1)				Prepared: 07/30/01 Analyzed: 07/31/01						
Lead	1.04	0.10	mg/l	1.00		104	80-120			
Matrix Spike (1G30025-MS1)		Source: MKG0365-01		Prepared: 07/30/01 Analyzed: 07/31/01						
Lead	1.22	0.10	mg/l	1.00	ND	122	80-120			Q-02
Matrix Spike Dup (1G30025-MSD1)		Source: MKG0365-01		Prepared: 07/30/01 Analyzed: 07/31/01						
Lead	1.24	0.10	mg/l	1.00	ND	124	80-120	1.63	20	Q-02

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	Reported: 08/01/01 12:17

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G31012 - EPA 3050B										
Blank (1G31012-BLK1)				Prepared & Analyzed: 07/31/01						
Lead	ND	5.0	mg/kg							
LCS (1G31012-BS1)				Prepared & Analyzed: 07/31/01						
Lead	56.8	5.0	mg/kg	50.0		114	80-120			
Matrix Spike (1G31012-MS1)		Source: MKG0553-01		Prepared & Analyzed: 07/31/01						
Lead	63.1	5.2	mg/kg	51.5	12	99.2	80-120			
Matrix Spike Dup (1G31012-MSD1)		Source: MKG0553-01		Prepared & Analyzed: 07/31/01						
Lead	54.5	4.6	mg/kg	46.3	12	91.8	80-120	14.6	20	
Batch 1G31024 - EPA 7471A										
nk (1G31024-BLK1)				Prepared: 07/31/01 Analyzed: 08/01/01						
cury	ND	0.0040	mg/kg							
LCS (1G31024-BS1)				Prepared: 07/31/01 Analyzed: 08/01/01						
Mercury	0.686	0.0040	mg/kg	0.667		103	80-120			
Matrix Spike (1G31024-MS1)		Source: MKG0553-01		Prepared: 07/31/01 Analyzed: 08/01/01						Q-02
Mercury	4.70	0.056	mg/kg	0.625	3.6	176	75-125			
Matrix Spike Dup (1G31024-MSD1)		Source: MKG0553-01		Prepared: 07/31/01 Analyzed: 08/01/01						Q-02
Mercury	5.18	0.060	mg/kg	0.667	3.6	237	75-125	9.72	20	
Batch 1G31025 - EPA 7470A										
Blank (1G31025-BLK1)				Prepared: 07/31/01 Analyzed: 08/01/01						
Mercury	ND	0.00020	mg/l							

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Analytical

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Morgan Hill, CA 95037
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FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	Reported: 08/01/01 12 17

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G31025 - EPA 7470A										
LCS (1G31025-BS1)				Prepared: 07/31/01 Analyzed: 08/01/01						
Mercury	0.00794	0.00020	mg/l	0.00800		99.2	80-120			
Matrix Spike (1G31025-MS1)		Source: MKG0553-04		Prepared: 07/31/01 Analyzed: 08/01/01						
Mercury	0.00831	0.00020	mg/l	0.00800	ND	104	75-125			
Matrix Spike Dup (1G31025-MSD1)		Source: MKG0553-04		Prepared: 07/31/01 Analyzed: 08/01/01						
Mercury	0.00819	0.00020	mg/l	0.00800	ND	102	75-125	1.45	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
08/01/01 12:17

Notes and Definitions

Q-02	The spike recovery for this quality control sample is outside of the established control limits due to interference from the sample matrix. However, the accuracy of the data was validated by a laboratory control sample which was within acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AIN OF CUSTODY

☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342
☐ 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 FAX (650) 232-9612

Ferma
1265 Montecito Ave, Suite 200
Mountain View State: CA Zip Code: 94043
Phone: (650) 345-1533 FAX #: (650) 968-3945
Contact: Mark Abu-Tair Sampler: KS

Project Name: Guadalupe Creek
Billing Address (if different):
To lab - keep all soil samples
P.O. #:
QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Working Days ☐ 3 Working Days ☐ 2 - 8 Hours
Working Days ☐ 2 Working Days
Working Days ☒ 24 Hours RUSH

☐ Drinking Water
☐ Waste Water
☒ Other

Analyses Requested

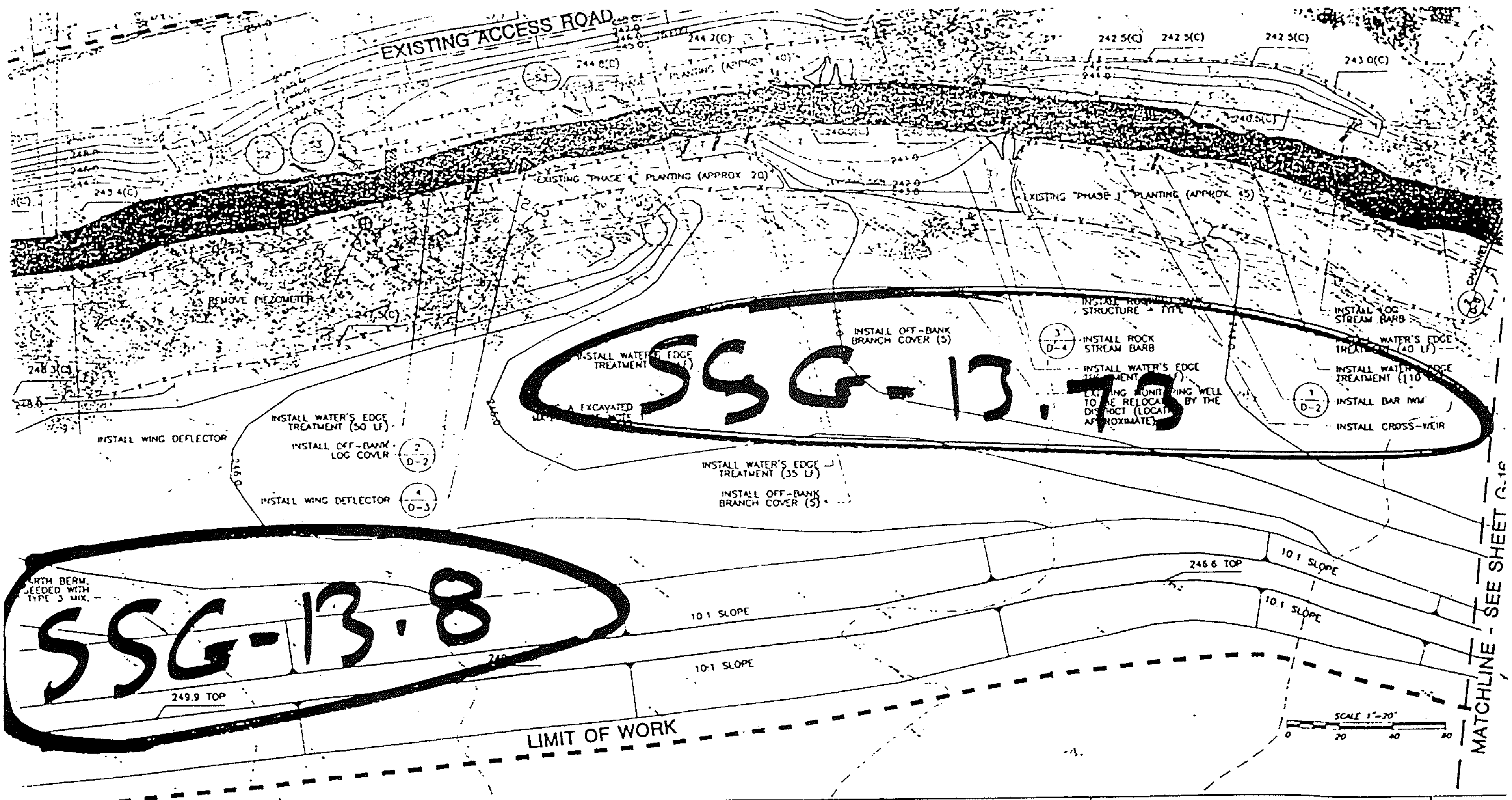
MK60553

Sample ID	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Total Hg, 7471 CVAA	Total Pb, 6000/7000 ICP	Comments
SSG-13.73	7/30 1:45pm	Soil	2 each composite	pl.	01	↓	↓	
SSG-2.8+50	7/30 2:55pm	Soil	2 each composite	pl.	02	↓	↓	
SSG-13.8+100	7/30 1:20pm	Soil	2 each composite	pl.	03	↓	↓	
R-1K	7/30 2:10pm	W	1		04	↓	↓	

Received by: Karen Summers Date: 7/30 Time: 1540 Received By: Heather Shelly Date: 7/30/01 Time: 1540
Received by: Date: Time: Received By: Date: Time:
…ued by: Date: Time: Received By: Date: Time:

…ved In Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment Client drop Page of

Pink - Client
Yellow - Sequoia
White - Sequoia


EXISTING ACCESS ROAD
244.7(C)
244.8(C)
PLANTING (APPROX 40)
242.5(C)
242.5(C)
242.5(C)
243.0(C)
240.5(C)
243.4(C)
EXISTING "PHASE I" PLANTING (APPROX 20)
EXISTING "PHASE I" PLANTING (APPROX 45)
CHANNEL
REMOVE PIEZOMETER
247.5(C)
248.3(C)
INSTALL WING DEFLECTOR
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK LOG COVER
2 D-2
INSTALL WING DEFLECTOR
4 D-3
246.0
INSTALL WATER'S EDGE TREATMENT
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL ROCK STREAM BARB
3 D-4
INSTALL WATER'S EDGE TREATMENT
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
1 D-2
INSTALL BAR WW
INSTALL CROSS-WEIR
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF-BANK BRANCH COVER (5)
SSG-13.73
EARTH BERM, SEEDED WITH TYPE 3 MIX
SSG-13.8
10:1 SLOPE
10:1 SLOPE
10:1 SLOPE
10:1 SLOPE
246.6 TOP
249.9 TOP
LIMIT OF WORK
MATCHLINE - SEE SHEET G-16
SCALE 1"=20'
0
20
40
60

Jones & Stokes

nhc northwest hydraulic consultants, inc

DATE 04/16/01
DESIGN JH/KC
DRAWN BH/BH/JS
CHECKED

Santa Clara Valley Water District

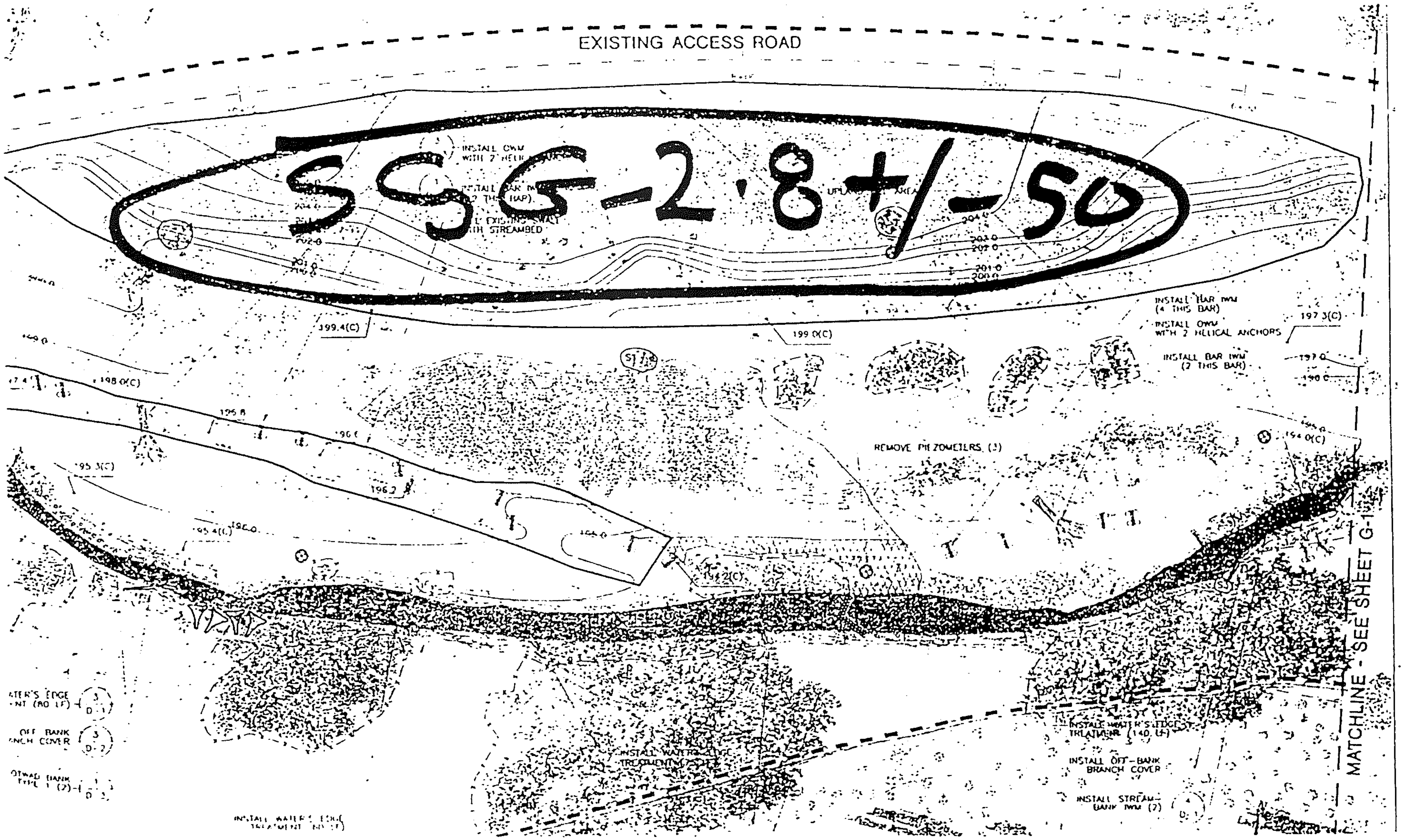
ACCEPTED BY DISTRICT

4/16/01

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALE
0 1"


EXISTING ACCESS ROAD
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
EXISTING SWALE WITH STREAMBED
UPLAND AREA
204.0
203.0
202.0
201.0
200.0
199.4(C)
199.0(C)
198.0(C)
197.3(C)
197.0
196.8
196.2
196.0
195.4(C)
195.3(C)
194.2(C)
194.0(C)
INSTALL BAR IWM (4 THIS BAR)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
REMOVE PIEZOMETERS (3)
INSTALL WATER'S EDGE TREATMENT
INSTALL WATER'S EDGE TREATMENT (140 LF)
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAMBANK IWM (7)
WATER'S EDGE TREATMENT (80 LF)
OFF BANK BRANCH COVER
OTWAD BANK TYPE 1 (2)
INSTALL WATER'S EDGE TREATMENT
MATCHLINE - SEE SHEET G-1

SSG-2.8+/-50

TETRA TECH, INC.
3746 Mt. Diablo Blvd. Suite 300
Lafayette, California 94549-3681
Telephone (925) 283-3771
FAX (925) 283-0780

August 2, 2001

RE: Soil Sampling at Guadalupe Creek

The enclosed data are for determining appropriate soil disposal options for excavated material from the Guadalupe Creek Restoration Project, being conducted by Ferma Corporation for the Santa Clara Valley Water District. Enclosed are summary tables for the total metals and results of WET leachate tests on the soil samples from the Guadalupe Creek area and a summary of the results of organic chemical analyses. The laboratory sheets for the metals and organics data are also enclosed. If you need more information, please call me at (925) 283-3771.

Sincerely,

Karen V. Summers

Karen V. Summers
Tetra Tech, Inc.

Cc w/o enclosures:
Al Gurevich, SCVWD
✓ Mark Abu-Tair, Ferma

August 2, 2001

MEMO

TO: Mark Abu-Tair, Ferma
FROM: Karen Summers, Tetra Tech, Inc
SUBJECT: Soil Sampling at Guadalupe Creek

Three composite soil samples were collected on Monday July 30, 2001. The description of the sampling locations is as follows:

SSG-2.8+50 Sheet G-2 at 8+50 Ramp across creek opposite Percolation Pond No. 4

Two holes were dug along the top east side of the ramp to a depth of 1 ft at distances of 27 ft and 38.5 ft from the start of the ramp on the north side. The other two holes were dug on the west side of the ramp to a depth of 1 ft at distances of 30 ft and 46.2 ft from the start of the ramp on the north side.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

SSG-13.8+50 Sheet G-13 at 73.00 Soil Pile on south bank of creek west of above ramp, East Half

One composite sample was collected from each half of the soil pile. Two holes were dug into the south side of the pile at distances of 23.5 ft and 37 ft from the east end of the pile. One hole was near the bottom and the other hole was 6 ft up from the bottom. The samples were collected from about 1 ft into the pile in the hole near the bottom and about 2 ft into the pile in the upper hole. The other two holes were dug on the top, northern part of the pile to a depth of 0.5 ft at distances of 3 ft and 25 ft from the east end of the pile.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

SSG-13.8+100 Sheet G-13 at 100 Soil Pile on south bank of creek west of above ramp, West Half

One composite sample was collected from each half of the soil pile. Two holes were dug into the south side of the pile at distances of 20.9 ft and 59.7 ft from the west end of the pile. The holes were about 2 and 5 ft from the bottom. The samples were collected from about 1 ft into the pile. The other two holes were dug on the northern side of the pile to a depth of 1 ft at a distance of 30.3 ft from the west end of the pile and at the west end of the pile about 3 ft up from the bottom.

The soil samples were collected using a plastic scoop. About 225 ml from each hole was collected into two 500 ml plastic containers. These two containers will be combined by the lab to make one composite soil sample.

R-1K Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

The lab was instructed to analyze the soil samples and water sample for total mercury using EPA Method 7471 CVAA and total lead using EPA Method 6000/7000 ICP.

The lab was told that these samples are 24-hour RUSH and that they should keep all the soil samples.

I delivered the samples to the laboratory on 7/30/01 at 15:40 pm. A copy of the chain of custody form is attached.

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

10 August, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE: -
Sequoia Report MKH0143

Enclosed are the results of analyses for samples received by the laboratory on 08/08/01 14:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron Porter
Project Manager

CA ELAP Certificate #1210

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guad Creek Project Manager: Mark Abu-Tair	Reported: 08/10/01 16:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-5@29.1-29.150	MKH0143-01	Soil	08/08/01 12:35	08/08/01 14:30
R-2K	MKH0143-02	Water	08/08/01 13:15	08/08/01 14:30

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Aaron Porter, Project Manager

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guad Creek Project Manager: Mark Abu-Tair	Reported: 08/10/01 16:36

Total Metals by EPA 200 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
R-2K (MKH0143-02) Water Sampled: 08/08/01 13:15 Received: 08/08/01 14:30									
Lead	ND	0.10	mg/l	1	1H08033	08/08/01	08/09/01	EPA 200.7	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation	Project: -	
1265 Montecito Ave.	Project Number: Guad Creek	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	08/10/01 16:36

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-5(29.1-29.150 (MKH0143-01) Soil Sampled: 08/08/01 12:35 Received: 08/08/01 14:30									
Mercury	0.28	0.0038	mg/kg	1	1H08034	08/08/01	08/09/01	EPA 7471A	
Lead	5.8	5.1	"	"	1H08018	08/08/01	08/09/01	EPA 6010A	
R-2K (MKH0143-02) Water Sampled: 08/08/01 13:15 Received: 08/08/01 14:30									
Mercury	ND	0.00020	mg/l	1	1H08035	08/08/01	08/10/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: Guad Creek Project Manager: Mark Abu-Tair	Reported: 08/10/01 16:36

Total Metals by EPA 200 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H08033 - EPA 3005A										
Blank (1H08033-BLK1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	ND	0.10	mg/l							
LCS (1H08033-BS1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	1.05	0.10	mg/l	1.00		105	80-120			
Matrix Spike (1H08033-MS1)		Source: MKH0123-01		Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	1.08	0.10	mg/l	1.00	ND	108	80-120			
Matrix Spike Dup (1H08033-MSD1)		Source: MKH0123-01		Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	1.06	0.10	mg/l	1.00	ND	106	80-120	1.87	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: Guad Creek Project Manager: Mark Abu-Tair	Reported: 08/10/01 16:36

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H08018 - EPA 3050B										
Blank (1H08018-BLK1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	ND	5.0	mg/kg							
LCS (1H08018-BS1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	52.4	5.0	mg/kg	50.0		105	80-120			
Matrix Spike (1H08018-MS1)		Source: MKH0094-01		Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	55.0	4.8	mg/kg	48.1	10	93.6	80-120			
Matrix Spike Dup (1H08018-MSD1)		Source: MKH0094-01		Prepared: 08/08/01 Analyzed: 08/09/01						
Lead	55.2	5.1	mg/kg	50.5	10	89.5	80-120	0.363	20	
Batch 1H08034 - EPA 7471A										
Blank (1H08034-BLK1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Mercury	ND	0.0040	mg/kg							
LCS (1H08034-BS1)				Prepared: 08/08/01 Analyzed: 08/09/01						
Mercury	0.631	0.0040	mg/kg	0.667		94.6	80-120			
Matrix Spike (1H08034-MS1)		Source: MKH0143-01		Prepared: 08/08/01 Analyzed: 08/09/01						Q-02
Mercury	0.574	0.0040	mg/kg	0.667	0.28	44.1	75-125			
Matrix Spike Dup (1H08034-MSD1)		Source: MKH0143-01		Prepared: 08/08/01 Analyzed: 08/09/01						Q-02
Mercury	0.101	0.0042	mg/kg	0.702	0.28	-25.5	75-125	140	20	
Batch 1H08035 - EPA 7470A										
Blank (1H08035-BLK1)				Prepared: 08/08/01 Analyzed: 08/10/01						
Mercury	ND	0.00020	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation	Project: -	
1265 Montecito Ave.	Project Number: Guad Creek	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	08/10/01 16:36

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H08035 - EPA 7470A										
LCS (1H08035-BS1)				Prepared: 08/08/01 Analyzed: 08/10/01						
Mercury	0.00752	0.00020	mg/l	0.00800		94.0	80-120			
Matrix Spike (1H08035-MS1)		Source: MKH0143-02		Prepared: 08/08/01 Analyzed: 08/10/01						
Mercury	0.00783	0.00020	mg/l	0.00800	ND	97.9	75-125			
Matrix Spike Dup (1H08035-MSD1)		Source: MKH0143-02		Prepared: 08/08/01 Analyzed: 08/10/01						
Mercury	0.00781	0.00020	mg/l	0.00800	ND	97.6	75-125	0.256	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Notes and Definitions

Q-02	The spike recovery for this quality control sample is outside of the established control limits due to interference from the sample matrix. However, the accuracy of the data was validated by a laboratory control sample which was within acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SEQUOIA ANALYTICAL
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☐ 819 Striker Ave e 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 92
☐ 1551 Industrial • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673

Company Name: Ferma Corp
Mailing Address: 1265 Montecito Ave Suite 200
City: Mountain View State: CA Zip Code: 94043
Telephone: 650 245-1523 Fax #:
Report To: Mark Abu-Tair E-Mail:
Sampler: K. Summers Date / Time Results Required:

Project: Guad Creek
Billing Address (if different):
P.O. #:
QC Data: ☒ Level II (Standard) ☐ Level III ☐ Level IV
Sequoia's Work Order # MKH0143

Turnaround Time: ☐ 10 - 15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 Hours ☐ 48 Hours ☒ 24 Hours ☐ 2-8 Hours
RUSH

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☐ Other

ANALYSES REQUESTED (Please provide method)

(composite)

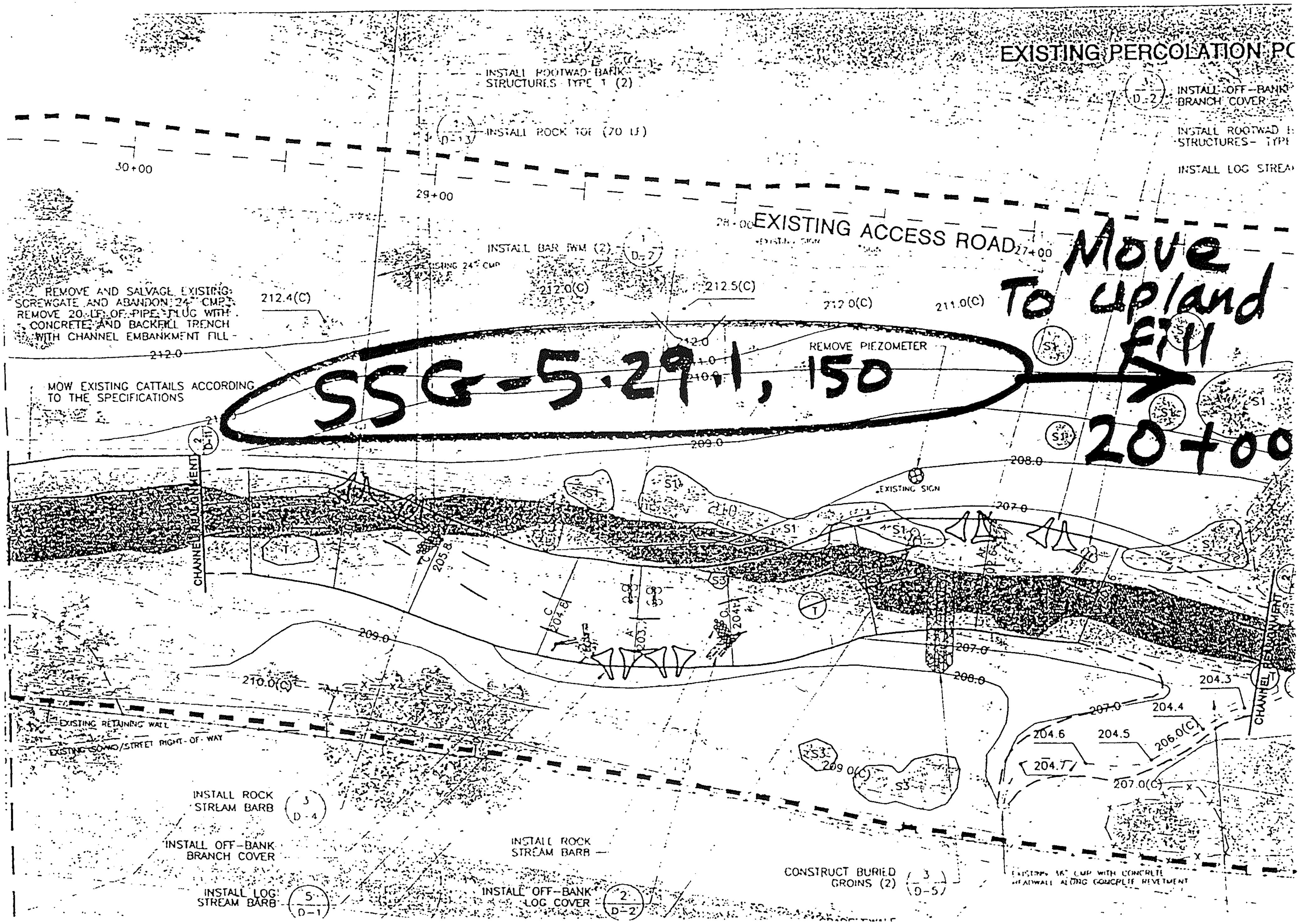
	Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	Total Hg	Total Pb							Comments/ (If required)
1.	SSG-5,29.1	8/8/01 10:55AM	soil	2	Plastic	01	↓	↓							
2.	SSG-5,29.50	8/8/01 11:05AM 11:15AM		2	P										
3.	SSG-5,29.75	8/8/01 11:55AM		2	P										
4.	SSG-5,29.100	8/8/01 12:35PM		2	P										
5.	SSG-5,29.150	8/8/01		2	P										
6.	R-2K	8/8/01 1:15AM	W	1	P	01	↓	↓							
7.															
8.															
9.															
10.															

NATURE SAVER™ FAX MEMO 01616
Date 8/10/01 # of pages ▶ 9
To Mark Abu-Tair From A. Porter
Co/Dept Ferma Co Sequoia
Phone # Phone #
Fax # 650 968-3945 Fax #

Relinquished By: Karen V. Summers Received By: E. Acelone Date / Time: 8/8/01 1430
Relinquished By: Received By: Date / Time:
quished By: Received By: Date / Time
hed By: Received By: Date / Time:

ceived in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment Customer drop-off Page ____ of ____

Pink - Client
Yellow
White - Sequoia
oia



SSG-5.29.1, 150

Move To upland fill 20+00

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

16 August, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave
Mountain View, CA 94073

RE -
Sequoia Report MKH0233

Enclosed are the results of analyses for samples received by the laboratory on 08/13/01 13:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron Porter
Project Manager

CA ELAP Certificate #1210

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave Mountain View CA 94043	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 08/16/01 06:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-1E1-SSG-1E5	MKH0233-01	Soil	08/13/01 12:10	08/13/01 13:40
R-3K	MKH0233-02	Water	08/13/01 12:30	08/13/01 13:40

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Aaron Porter, Project Manager

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94043	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 08/16/01 06:25

Total Metals by EPA 200 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
R-3K (MKH0233-02) Water Sampled: 08/13/01 12:30 Received: 08/13/01 13:40									
Lead	ND	0.10	mg/l	1	1H13020	08/13/01	08/13/01	EPA 200.7	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation	Project -	
1265 Montecito Ave	Project Number -	Reported:
Mountain View CA, 94043	Project Manager: Mark Abu-Tair	08 16 01 06 25

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1.E1-SSG-1E5 (MKH0233-01) Soil Sampled: 08/13/01 12:10 Received: 08/13/01 13:40									
Mercury	2.7	0.038	mg/kg	10	1H13042	08/13/01	08/13/01	EPA 7471A	
Lead	8.1	4.9	"	1	1H13025	08/13/01	08/13/01	EPA 6010A	
R-3K (MKH0233-02) Water Sampled: 08/13/01 12:30 Received: 08/13/01 13:40									
Mercury	ND	0.00020	mg/l	1	1H15021	08/15/01	08/15/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94043	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 08/16/01 06:25

Total Metals by EPA 200 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H13020 - EPA 3005A										
Blank (1H13020-BLK1)				Prepared & Analyzed: 08/13/01						
Lead	ND	0.10	mg/l							
LCS (1H13020-BS1)				Prepared & Analyzed: 08/13/01						
Lead	1.20	0.10	mg/l	1.00		120	80-120			
Matrix Spike (1H13020-MS1)		Source: MKH0206-01		Prepared & Analyzed: 08/13/01						
Lead	1.28	0.10	mg/l	1.00	0.15	113	80-120			
Matrix Spike Dup (1H13020-MSD1)		Source: MKH0206-01		Prepared & Analyzed: 08/13/01						
Lead	1.24	0.10	mg/l	1.00	0.15	109	80-120	3.17	20	

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94043	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 08/16/01 06:25

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H13025 - EPA 3050B										
Blank (1H13025-BLK1)				Prepared & Analyzed: 08/13/01						
Lead	ND	5.0	mg/kg							
LCS (1H13025-BS1)				Prepared & Analyzed: 08/13/01						
Lead	53.4	5.0	mg/kg	50.0		107	80-120			
Matrix Spike (1H13025-MS1)	Source: MKH0176-01			Prepared & Analyzed: 08/13/01						
Lead	1640	5.0	mg/kg	49.5	1700	-121	80-120			Q-02
Matrix Spike Dup (1H13025-MSD1)	Source: MKH0176-01			Prepared & Analyzed: 08/13/01						
Lead	1170	5.1	mg/kg	51.0	1700	-1040	80-120	33.5	20	Q-02
Batch 1H13042 - EPA 7471A										
Blank (1H13042-BLK1)				Prepared & Analyzed: 08/13/01						
Mercury	ND	0.0040	mg/kg							
LCS (1H13042-BS1)				Prepared & Analyzed: 08/13/01						
Mercury	0.649	0.0040	mg/kg	0.667		97.3	80-120			
Matrix Spike (1H13042-MS1)	Source: MKH0166-01			Prepared & Analyzed: 08/13/01						
Mercury	1.24	0.038	mg/kg	0.625	0.61	101	75-125			
Matrix Spike Dup (1H13042-MSD1)	Source: MKH0166-01			Prepared & Analyzed: 08/13/01						
Mercury	1.19	0.039	mg/kg	0.656	0.61	88.4	75-125	4.12	20	
Batch 1H15021 - EPA 7470A										
Blank (1H15021-BLK1)				Prepared & Analyzed: 08/15/01						
Mercury	ND	0.00020	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation	Project: -	
1265 Montecito Ave	Project Number: -	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	08/16/01 06:25

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H15021 - EPA 7470A										
LCS (1H15021-BS1)				Prepared & Analyzed: 08/15/01						
Mercury	0.00759	0.00020	mg/l	0.00800		94.9	80-120			
Matrix Spike (1H15021-MS1)		Source: MKH0262-01		Prepared & Analyzed: 08/15/01						
Mercury	0.00750	0.00020	mg/l	0.00800	ND	93.7	75-125			
Matrix Spike Dup (1H15021-MSD1)		Source: MKH0262-01		Prepared & Analyzed: 08/15/01						
Mercury	0.00754	0.00020	mg/l	0.00800	ND	94.2	75-125	0.532	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

Q-02	The spike recovery for this quality control sample is outside of the established control limits due to interference from the sample matrix. However, the accuracy of the data was validated by a laboratory control sample which was within acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

☐ 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
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☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
☐ 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673

Company Name: Ferma
Mailing Address: 1265 Montecito Ave, Suite 210
City: Mountain View State: CA Zip Code: 94043
Telephone: (650) 245-1523 Fax #:
Report To: Mark Abu-Tair E-Mail:
Sampler: K. Summers Date / Time Results Required:

Project:
Billing Address (if different):
P.O. #:
QC Data: ☒ Level II (Standard) ☐ Level III ☐ Level IV
Sequoia's Work Order # MKH0233

Turnaround Time:
☐ 10 - 15 Working Days (Standard TAT)
☐ 7 Working Days
☐ 5 Working Days
☐ 72 Hours
☐ 48 Hours
☒ 24 Hours
☐ 2-8 Hours
Rush

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☒ Other

ANALYSES REQUESTED (Please provide method)

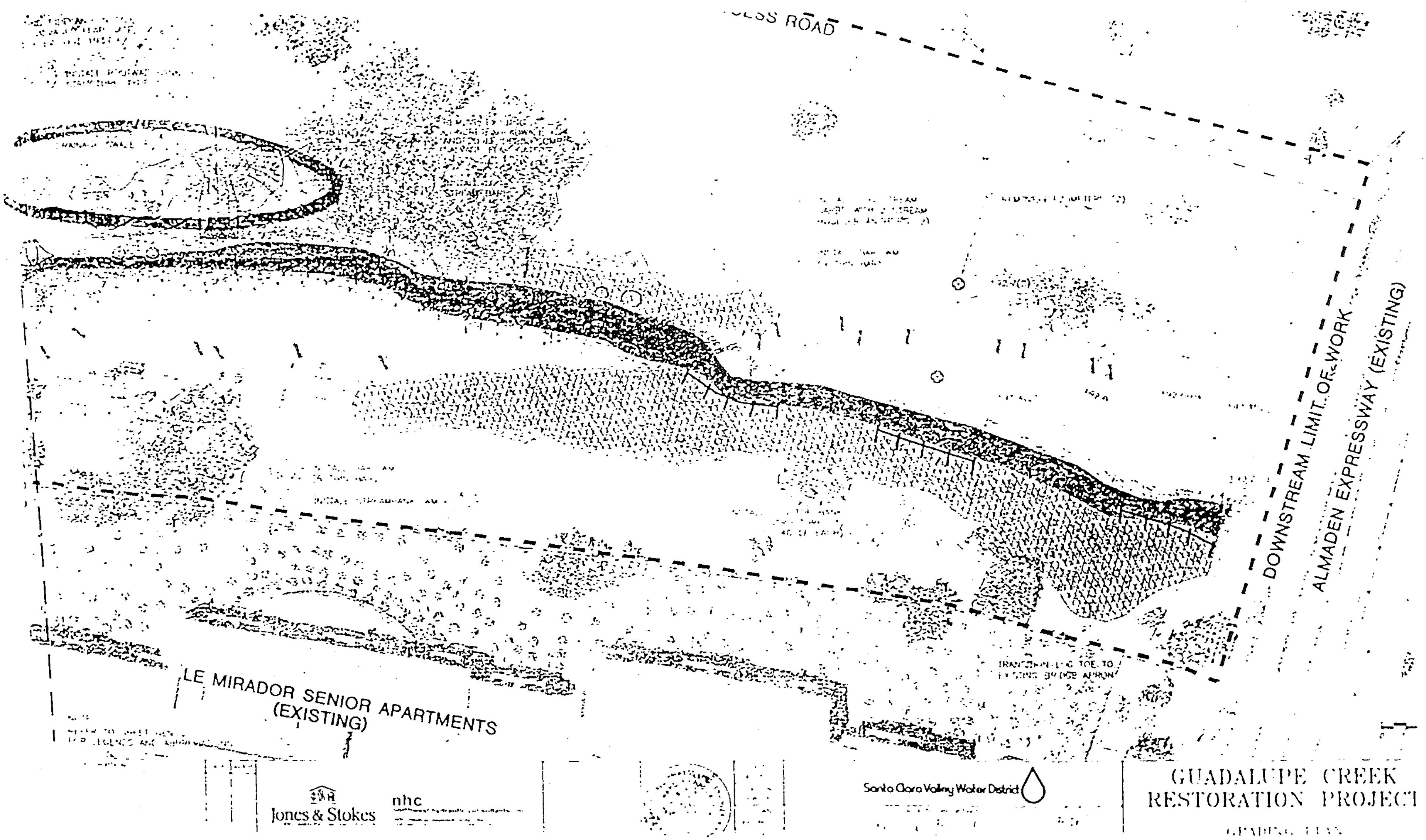
Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	Total Hg 7471	Total Pb (ICP)								Comments/ Temp. (If required)
1. SS6-1,E1	8/13/01 11:05am	Soil	2	P	01	X	X								of 2 containers
2. SS6-1,E2	8/13/01 11:25am	"	2	P	02	X	X								make 1 composite
3. SS6-1,E3	8/13/01 11:40am	"	2	P	03	X	X								
4. SS6-1,E4	8/13/01 12noon	"	2	P	04	X	X								
5. SS6-1,E5	8/13/01 12:10pm		2	P	05	X	X								
6. R-3K	8/13/01 12:30pm	W	1	P	04	X	X								
7.															
3.															
9.															
10.															

Relinquished By: Karen V. Summers
Received By: Date / Time: 8/13/01 1:49pm
Relinquished By: Received By: Date / Time:
'inquished By: Received By: Date / Time
hed By: Recei By: Date / Time:

Good Condition? ☒ Yes ☐ No

Pink - Client
Yellow - Sequoia
White - Sequoia

SSG-1, E1—E5



SS ROAD
DOWNSTREAM LIMIT OF WORK
ALMADEN EXPRESSWAY (EXISTING)
LE MIRADOR SENIOR APARTMENTS (EXISTING)
TRANSITION TOE TO EXISTING BRIDGE APRON
Jones & Stokes
nhc
Santa Clara Valley Water District
GUADALUPE CREEK
RESTORATION PROJECT

Moved to upland fill 6+00

August 15, 2001

MEMO

TO: Mark Abu-Tair, Ferma
FROM: Karen Summers, Tetra Tech, Inc
SUBJECT: Soil Sampling at Guadalupe Creek on August 8 and 13th.

Five composite soil samples were collected on Wednesday August 8, 2001. The description of the sampling locations is as follows:

SSG-5.29.1 Sheet G-5 Soil Stockpile west of Station 29 on north side of creek (West end)

The soil stockpile was divided into five sections. Hole #1 was dug 0.2 ft beneath surface at location 3 ft in from north side of pile and 25 ft east of end of pile. Hole #2 was dug 0.5 ft into pile at location 4 ft from south side of pile and 2 ft from western end. Hole #3 was dug 0.3 ft into top of pile at location 6 ft west of station 29 and 4.3 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 20 ft west of station 29 and 3 ft from southern edge of pile.

SSG-5.29.50 Sheet G-5 Soil Stockpile west of Station 29, Section 2

Hole #1 was dug 0.5 ft beneath surface at location 1.5 ft in from north side of pile and 22 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 31 ft east of station 29 and 4 ft from northern edge of pile (near top). Hole #3 was dug 1 ft into top of pile at location 52.5 ft east of station 29 and.3 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 41ft east of station 29 and 2 ft from bottom of pile on southern edge.

SSG-5.29.75 Sheet G-5 Soil Stockpile west of Station 29, Section 3

Hole #1 was dug 0.5 ft beneath surface at location 2 ft in from north side of pile and 100 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 109 ft east of station 29 and 13 ft from northern edge of pile (on top). Hole #3 was dug 1 ft into top of pile at location 117.5 ft east of station 29 and.25 ft from northern edge of pile. Hole #4 was dug 0.5 ft into top of pile at location 131.5 ft east of station 29 and 5 ft from south side of pile. Hole #4 was opposite MV18 stake marker.

SSG-5.29.100 Sheet G-5 Soil Stockpile west of Station 29, Section 4

Hole #1 was dug 0.5 ft beneath surface at location 2.5 ft in from north side of pile on top ramp and 238 ft east of station 29. Hole #2 was dug 0.5 ft into pile at location 243 ft east of station 29 and 11 ft from northern edge of pile (on top). Hole #3 was dug 0.5 ft into top of pile at location 271 ft east of station 29 and.3 ft from southern edge of pile. Hole of the end of the fourth pile and 7 ft from the north side. Hole #3 was dug 0.5 ft into the pile at a location 6 ft from the east end of third pile and 4 ft from the south side. Hole #4 was dug 0.5 ft into the pile at a location 1 ft from the east end of the fourth pile and 3.9 ft from the south side.

SSG-1.E34 Soil Stockpile (Piles 5, 6, and 7)

The fifth pile from the east end was 10 ft long, the sixth pile was about 10 ft long, and the fourth [pile was about 12 ft long. Hole #1 was dug 0.5 ft into the fifth pile at a location 5 ft from the north side and 3 ft from the west end of the fifth pile. Hole #2 was dug 0.5 ft into the sixth pile at a location 6 ft west of the end of the fifth pile and 3 ft from the north side. Hole #3 was dug 0.5 ft into the seventh pile at a location 2.5 ft from the west end of seventh pile and 3 ft from the south side. Hole #4 was dug 1 ft into the seventh pile at a location 2.5 ft from the west end of the seventh pile and 5 ft from the south side.

SSG-1.E35 Soil Stockpile (Piles 8, 9, and 10)

The eighth pile from the east end was about 8 ft long, the ninth pile was about 12 ft long, and the tenth pile was about 14 ft long. Hole #1 was dug 0.5 ft into the eighth pile at a location 4.5 ft from the north side and 7 ft from the west end of the eighth pile. Hole #2 was dug 0.5 ft into the ninth pile at a location 3.5 ft west of the end of the ninth pile and 8 ft from the north side. Hole #3 was dug 0.5 ft into the ninth pile at a location 5 ft from the west end of ninth pile and 6.5 ft from the north side. Hole #4 was dug 1 ft into the seventh pile at a location 11.5 ft from the west end of the tenth pile and 2 ft from the north side.

R-3K Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Sequoia
Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673
www.sequoialabs.com

17 August, 2001

Karen Summers
Tetra Tech, Inc.
180 Howard St., Ste. 250
San Francisco, CA 94105

RE: Guadalupe Creek
Sequoia Report: W108306

Enclosed are the results of analyses for samples received by the laboratory on 16-Aug-01 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dimple Sharma
Project Manager

CA ELAP Certificate #1271

Tetra Tech, Inc.
180 Howard St., Ste. 250
San Francisco CA, 94105

Project: Guadalupe Creek
Project Number: TC 11823-01
Project Manager: Karen Summers

Reported:
17-Aug-01 14:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS G-12 72	W108306-01	Soil	16-Aug-01 00:00	16-Aug-01 15:45
SS G-12 68	W108306-02	Soil	16-Aug-01 00:00	16-Aug-01 15:45
SS G-10 58	W108306-03	Soil	16-Aug-01 00:00	16-Aug-01 15:45

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

DSharma
Dimple Sharma, Project Manager

Tetra Tech, Inc. 180 Howard St., Ste. 250 San Francisco CA, 94105	Project: Guadalupe Creek Project Number: TC 11823-01 Project Manager: Karen Summers	Reported: 17-Aug-01 14:21

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS G-12 72 (W108306-01) Soil	**Sampled: 16-Aug-01 00:00**	**Received: 16-Aug-01 15:45**							
Mercury	3.2	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	
SS G-12 68 (W108306-02) Soil	**Sampled: 16-Aug-01 00:00**	**Received: 16-Aug-01 15:45**							
Mercury	3.8	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	11	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	
SS G-10 58 (W108306-03) Soil	**Sampled: 16-Aug-01 00:00**	**Received: 16-Aug-01 15:45**							
Mercury	3.4	0.10	mg/kg	10	1H16013	16-Aug-01	17-Aug-01	EPA 7471A	
Lead	9.4	1.0	"	1	1H15025	15-Aug-01	17-Aug-01	EPA 6010A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Tetra Tech, Inc.
180 Howard St , Ste. 250
San Francisco CA, 94105

Project: Guadalupe Creek
Project Number: TC 11823-01
Project Manager: Karen Summers

Reported:
17-Aug-01 14:21

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H15025 - EPA 3050B										
Blank (1H15025-BLK1)				Prepared: 15-Aug-01 Analyzed: 16-Aug-01						
Lead	ND	1.0	mg/kg							
Blank (1H15025-BLK2)				Prepared: 15-Aug-01 Analyzed: 17-Aug-01						
Lead	ND	1.0	mg/kg							
LCS (1H15025-BS1)				Prepared: 15-Aug-01 Analyzed: 16-Aug-01						
Lead	54.6	1.0	mg/kg	50.0		109	80-120			
LCS (1H15025-BS2)				Prepared: 15-Aug-01 Analyzed: 17-Aug-01						
Lead	48.8	1.0	mg/kg	50.0		97.6	80-120			
LCS Dup (1H15025-BSD1)				Prepared: 15-Aug-01 Analyzed: 16-Aug-01						
Lead	55.0	1.0	mg/kg	50.0		110	80-120	0.730	20	
LCS Dup (1H15025-BSD2)				Prepared: 15-Aug-01 Analyzed: 17-Aug-01						
Lead	48.6	1.0	mg/kg	50.0		97.2	80-120	0.411	20	
Matrix Spike (1H15025-MS1)		Source: W108281-01		Prepared: 15-Aug-01 Analyzed: 16-Aug-01						
Lead	52.5	1.0	mg/kg	50.0	5.0	95.0	80-120			
Matrix Spike Dup (1H15025-MSD1)		Source: W108281-01		Prepared: 15-Aug-01 Analyzed: 16-Aug-01						
Lead	52.6	1.0	mg/kg	50.0	5.0	95.2	80-120	0.190	20	
Batch 1H16013 - EPA 7471A										
Blank (1H16013-BLK1)				Prepared: 16-Aug-01 Analyzed: 17-Aug-01						
Mercury	ND	0.010	mg/kg							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

etra Tech, Inc.
180 Howard St., Ste. 250
San Francisco CA, 94105

Project: Guadalupe Creek
Project Number: TC 11823-01
Project Manager: Karen Summers

Reported:
17-Aug-01 14:21

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H16013 - EPA 7471A										
LCS (1H16013-BS1)				Prepared: 16-Aug-01 Analyzed: 17-Aug-01						
Mercury	0.105	0.010	mg/kg	0.100		105	75-125			
LCS Dup (1H16013-BSD1)				Prepared: 16-Aug-01 Analyzed: 17-Aug-01						
Mercury	0.106	0.010	mg/kg	0.100		106	75-125	0.948	20	
Matrix Spike (1H16013-MS1)		Source: W108198-16		Prepared: 16-Aug-01 Analyzed: 17-Aug-01						
Mercury	0.168	0.010	mg/kg	0.100	0.056	112	75-125			
Matrix Spike Dup (1H16013-MSD1)		Source: W108198-16		Prepared: 16-Aug-01 Analyzed: 17-Aug-01						
Mercury	0.165	0.010	mg/kg	0.100	0.056	109	75-125	1.80	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

TETRA TECH, INC.

TETRA TECH, INC.
180 Howard Street, Suite 250
San Francisco, CA 94105-1661

CHAIN OF CUSTODY

W108306

TT

Client Ferma Corporation	Project Name Guadalupe Creek	Destination Sequoia Laboratory
Address 1265 Montecito Ave, Suite 200, Mountain View, CA 94043	Project Number TC 11823-01	Address 1551 Industrial Road
Phone (650) 245-1523	Project Manager Karen Summers	Tel (650) 232-9600
Contact Mark Abu-Tair	Field Contact Tatjana Gruner Phone (415) 974-1221	Contact Paul
Sampler (print) Tatjana Gruner Sampler (sign)	Sample date(s) 8/16/01	Turn Around Time 24 hour rush

ANALYTICAL PROCEDURES

	Sample Description	Date	Time	Depth (feet)	*Media	# of Containers	Pres	Field Filtered (y/n)	Tot. Mercury EPA 7471A Cold Vapor	Tot. Lead (6000/7000 ICP)	Comments	Lab ID #
01	SSG-1272	8/16			S	1	n	N	X	X	Fax results	
02	SSG-1268	8/16			S	1	N	N	X	X	to Tatjana Gruner	
03	SSG-1058	8/16			S	1	N	N	X	X	at 415-974-5514	

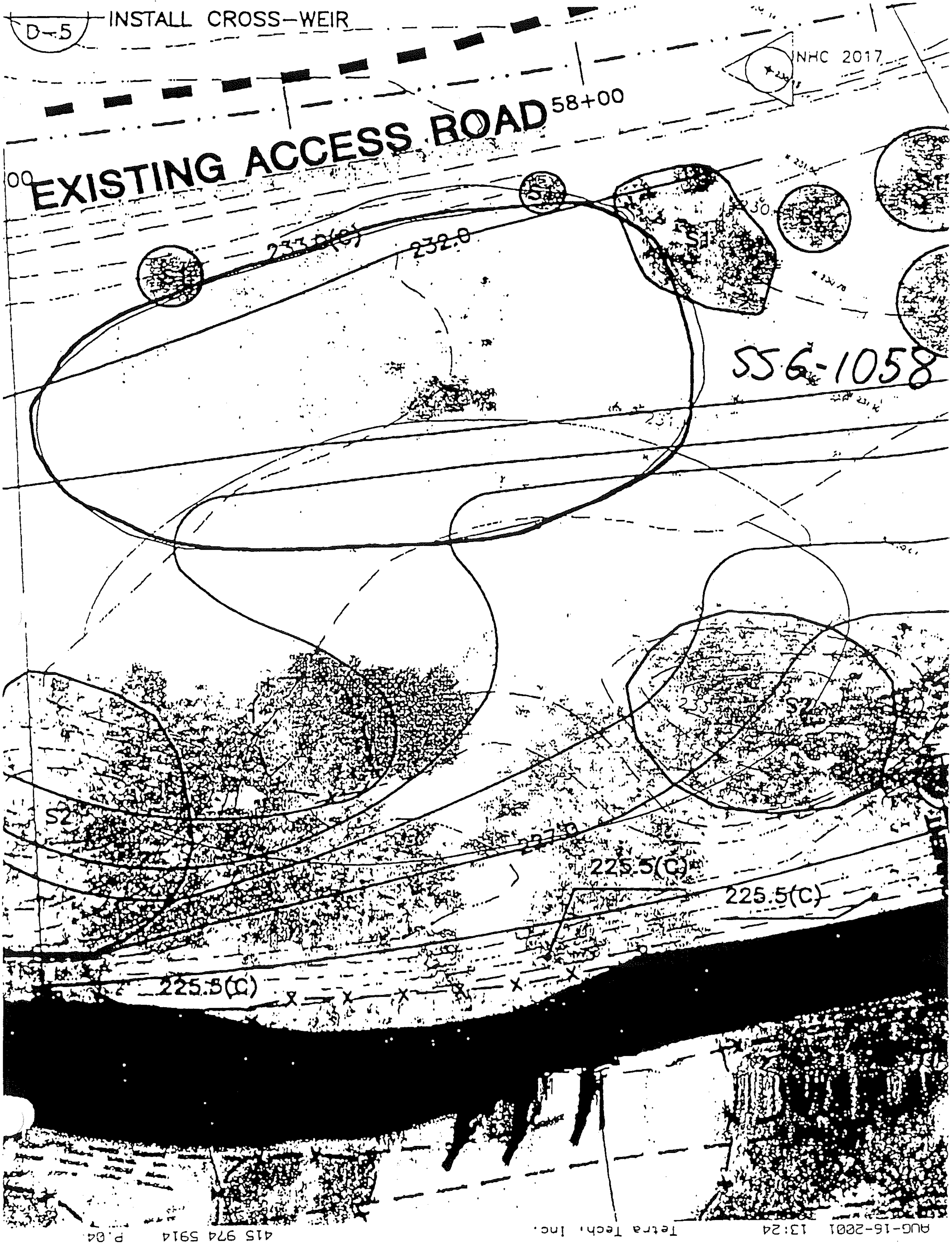
WC

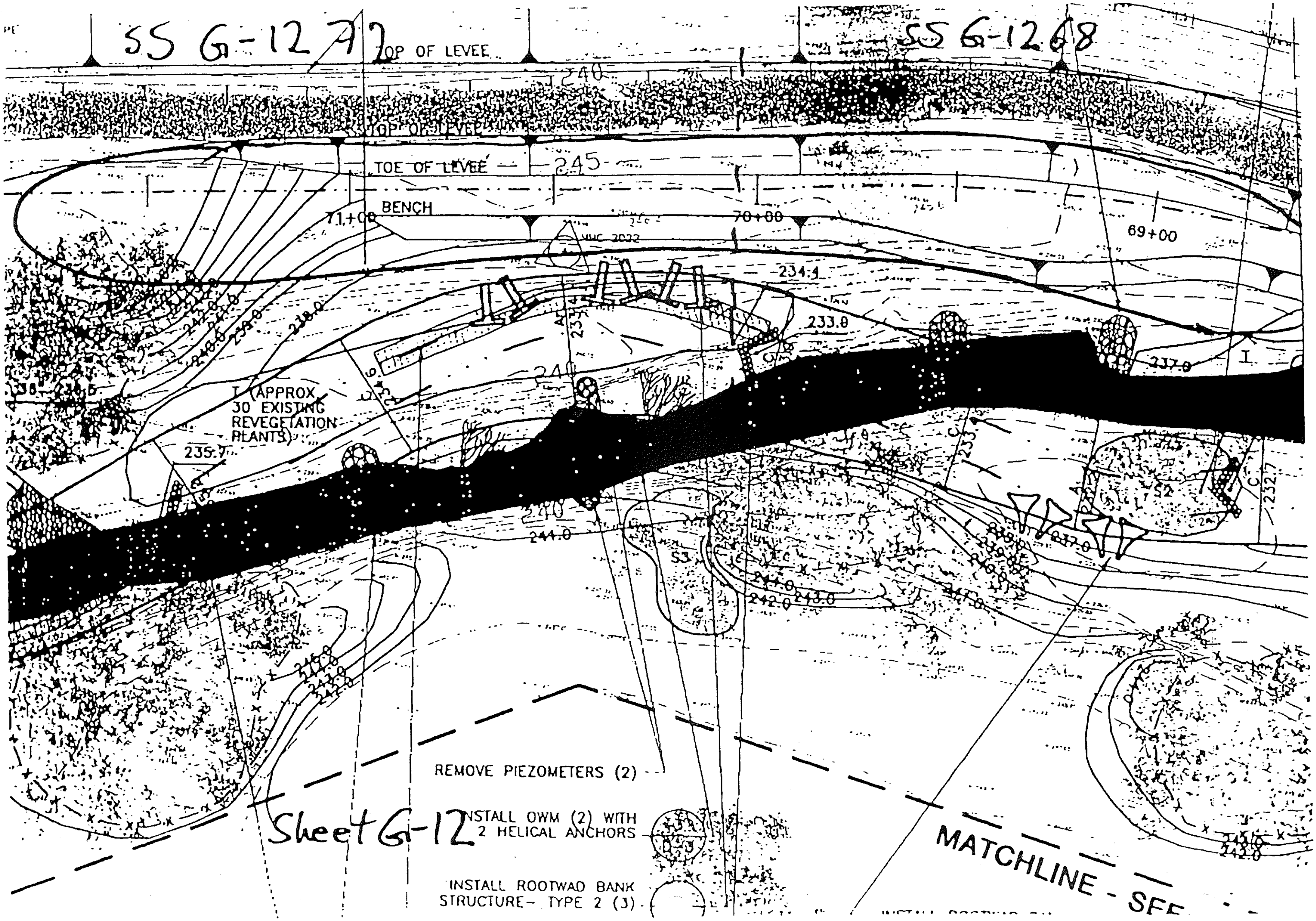
Relinquished by	Date/Time 8/16/01 1130	Received By	Date/Time 8/16/01 1130	Condition Received		
				Cold	Sealed	Intact
Relinquished by	Date/Time 8/16/01	Received By	Date/Time 8-16- 1210	Condition Received		
				Cold	Sealed	Intact
Shipping Method	No of Packages 8-16		Shipping Number			

*MEDIA CODE			
Soil	S	Concrete	C
Wipe	F	Surface Water	SW
Wood	WO	Ground Water	GW
Sludge	SL	Compost	CO
Soil Gas	SG		

REMARKS

TOTAL P.04

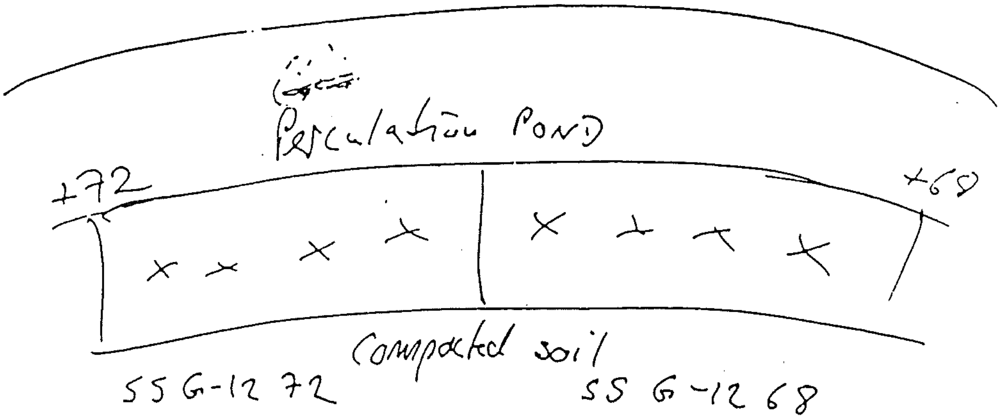

D-5
INSTALL CROSS-WEIR
INHC 2017
EXISTING ACCESS ROAD
58+00
00
233.0(C)
232.0
230
231
S1
S2
S2
556-1058
227.0
225.5(C)
225.5(C)
225.5(C)


SS G-12 A2
SS G-12 A8
TOP OF LEVEE
TOP OF LEVEE
TOE OF LEVEE
BENCH
240
245
71+00
70+00
69+00
234.1
233.8
233.4
234.6
235.7
237.0
232.7
233.1
238.0
240
241.0
242.0
243.0
I (APPROX 30 EXISTING REVEGETATION PLANTS)
S2
S3
A
C
I
REMOVE PIEZOMETERS (2)
Sheet G-12
INSTALL OWM (2) WITH 2 HELICAL ANCHORS
INSTALL ROOTWAD BANK STRUCTURE - TYPE 2 (3)
MATCHLINE - SEE

Sheet
G-12 Between sections 68 + 72

"PILE" I

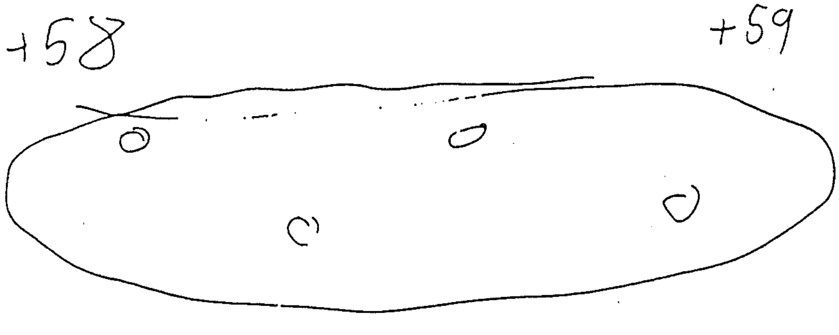
SS G-12 72 SSG-12 68



Sheet
G-10 Between section 58 + 59

PILE II

SS G-10 58



Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

ORIGINAL

28 September, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE: -
Sequoia Report: MKI0330

Enclosed are the results of analyses for samples received by the laboratory on 09/18/01 14:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tim Costello For James Hartley
Project Manager

CA ELAP Certificate #1210

TCLP
Included

off hual to
~~[illegible]mont~~ Kettleman

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

ORIGINAL

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number - Project Manager Mark Abu-Tair	Reported: 09/28/01 15:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG 50+50	MK10330-01	Soil	09/18/01 10:30	09/18/01 14:35
SSG 68+50	MK10330-02	Soil	09/18/01 11:15	09/18/01 14:35
SSG 25+00	MK10330-03	Soil	09/18/01 12:10	09/18/01 14:35
SSG 08+00	MK10330-04	Soil	09/18/01 11:45	09/18/01 14:35
R-GW-1	MK10330-05	Water	09/18/01 12:30	09/18/01 14:35

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tim Costello For James Hartley, Project Manager

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

Total Metals by EPA 200 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
R-GW-1 (MKI0330-05) Water Sampled: 09/18/01 12:30 Received: 09/18/01 14:35									
Lead	ND	0.10	mg/l	1	1I18017	09/18/01	09/19/01	EPA 200.7	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

Total Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG 50+50 (MK10330-01) Soil	**Sampled: 09/18/01 10:30**	**Received: 09/18/01 14:35**							
Mercury	50	0.42	mg/kg	120	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	8.1	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 68+50 (MK10330-02) Soil	**Sampled: 09/18/01 11:15**	**Received: 09/18/01 14:35**							
Mercury	3.8	0.057	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	12	4.7	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 25+00 (MK10330-03) Soil	**Sampled: 09/18/01 12:10**	**Received: 09/18/01 14:35**							
Mercury	13	0.065	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	13	5.2	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
SSG 08+00 (MK10330-04) Soil	**Sampled: 09/18/01 11:45**	**Received: 09/18/01 14:35**							
Mercury	11	0.068	mg/kg	15	1119015	09/19/01	09/19/01	EPA 7471A	
Lead	14	5.1	"	1	1118019	09/18/01	09/19/01	EPA 6010A	
R-GW-1 (MK10330-05) Water	**Sampled: 09/18/01 12:30**	**Received: 09/18/01 14:35**							
cury	ND	0.00020	mg/l	1	1120016	09/20/01	09/20/01	EPA 7470A	

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:30

TCLP Metals by EPA 1311/6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG 50+50 (MK10330-01) Soil Sampled: 09/18/01 10:30 Received: 09/18/01 14:35									
Mercury	ND	0.00020	mg/l	1	1128010	09/28/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:30

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG 50+50 (MK10330-01) Soil Sampled: 09/18/01 10:30 Received: 09/18/01 14:35									
Moisture	11	0.10	%	1	1126024	09/25/01	09/26/01	EPA 160 3	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

Total Metals by EPA 200 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1118017 - EPA 3005A										
Blank (1118017-BLK1)				Prepared & Analyzed: 09/18/01						
Lead	ND	0.10	mg/l							
LCS (1118017-BS1)				Prepared & Analyzed: 09/18/01						
Lead	0.961	0.10	mg/l	1.00		96.1	80-120			
Matrix Spike (1118017-MS1)		Source: MK10254-01		Prepared & Analyzed: 09/18/01						
Lead	0.893	0.10	mg/l	1.00	ND	89.3	80-120			
Matrix Spike Dup (1118017-MSD1)		Source: MK10254-01		Prepared & Analyzed: 09/18/01						
Lead	0.917	0.10	mg/l	1.00	ND	91.7	80-120	2.65	20	

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:30

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1118019 - EPA 3050B										
Blank (1118019-BLK1)				Prepared & Analyzed: 09/18/01						
Lead	ND	5.0	mg/kg							
LCS (1118019-BS1)				Prepared & Analyzed: 09/18/01						
Lead	47.1	5.0	mg/kg	50.0		94.2	80-120			
Matrix Spike (1118019-MS1)		Source: MKI0174-01		Prepared & Analyzed: 09/18/01						
Lead	51.8	5.2	mg/kg	52.1	7.5	85.0	80-120			
Matrix Spike Dup (1118019-MSD1)		Source: MKI0174-01		Prepared & Analyzed: 09/18/01						
Lead	49.9	5.0	mg/kg	49.5	7.5	85.7	80-120	3.74	20	
Batch 1119015 - EPA 7471A										
Blank (1119015-BLK1)				Prepared & Analyzed: 09/19/01						
cury	ND	0.0040	mg/kg							
LCS (1119015-BS1)				Prepared & Analyzed: 09/19/01						
Mercury	0.690	0.0040	mg/kg	0.667		103	80-120			
Matrix Spike (1119015-MS1)		Source: MKI0183-02		Prepared & Analyzed: 09/19/01						
Mercury	1.23	0.041	mg/kg	0.690	0.61	89.9	75-125			
Matrix Spike Dup (1119015-MSD1)		Source: MKI0183-02		Prepared & Analyzed: 09/19/01						
Mercury	1.22	0.040	mg/kg	0.667	0.61	91.5	75-125	0.816	20	
Batch 1120016 - EPA 7470A										
Blank (1120016-BLK1)				Prepared & Analyzed: 09/20/01						
Mercury	ND	0.00020	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15 30

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I20016 - EPA 7470A										
LCS (1I20016-BS1)				Prepared & Analyzed: 09/20/01						
Mercury	0.00756	0.00020	mg/l	0.00800		94.5	80-120			
Matrix Spike (1I20016-MS1)		Source: MKI0330-05		Prepared & Analyzed: 09/20/01						
Mercury	0.00616	0.00020	mg/l	0.00800	ND	76.1	75-125			
Matrix Spike Dup (1I20016-MSD1)		Source: MKI0330-05		Prepared & Analyzed: 09/20/01						
Mercury	0.00613	0.00020	mg/l	0.00800	ND	75.8	75-125	0.488	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:30

TCLP Metals by EPA 1311/6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I28010 - EPA 7470A										
Blank (1I28010-BLK1)				Prepared & Analyzed: 09/28/01						
Mercury	ND	0.00020	mg/l							
LCS (1I28010-BS1)				Prepared & Analyzed: 09/28/01						
Mercury	0.00831	0.00020	mg/l	0.00800		104	80-120			
Matrix Spike (1I28010-MS1)		Source: MK10330-01		Prepared & Analyzed: 09/28/01						
Mercury	0.00844	0.00020	mg/l	0.00800	ND	106	75-125			
Matrix Spike Dup (1I28010-MSD1)		Source: MK10330-01		Prepared & Analyzed: 09/28/01						
Mercury	0.00846	0.00020	mg/l	0.00800	ND	106	75-125	0.237	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:30

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1126024 - General Preparation										
Duplicate (1126024-DUP1)		Source: MKI0330-01			Prepared: 09/25/01	Analyzed: 09/26/01				
Moisture	8.90	0.10	%		11			21.1	20	QR-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	**Reported:** 09/28/01 15:30

Notes and Definitions

QR-07	The RPD was outside control limits. The results may still be useful for their intended purpose.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
☐ 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673

COPY

Company Name: Ferma
Project:
Mailing Address: 1265 Montecito Ave., Suite 210
Billing Address (if different):
City: Mountain View State: CA Zip Code: 94043
Telephone: (650) 245-1523 Fax #: P.O. #:
Report To: Mark Abu-Tair E-Mail:
QC Data: ☐ Level II (Standard) ☐ Level III ☐ Level IV
Sampler: G. Worthan Date / Time Results Required: Sequoia's Work Order # MKI 0330

Turnaround Time:
☐ 10 - 15 Working Days (Standard TAT)
☐ 7 Working Days
☐ 5 Working Days
☐ 72 Hours
☐ 48 Hours
☒ 24 Hours
☐ 2-8 Hours

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☒ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	Total Hg 7471	Total Pb (ICP)								Comments/ Temp.(If required)
1. SSG.50+50	9/18/01/1030	Soil	2	P	01										Composite 2 Containers into 1 composite
2. SSG.68+50	9/18/01/11:15	Soil	2	P	02										
3. SSG-25+00	9/18/01/1210	Soil	2	P	03										
4. SSG.08+00	9/18/01/1145	Soil	2	P	04										
5. R-GW-1	9/18/01/1230	Water	1	P	05										
6.															
7.															
8.															
9.															
10.															

Relinquished By: Received By: Date / Time: 9-18-01 1:00 PM
Relinquished By: Received By: Date / Time: 9-18-01 1435
Relinquished By: Received By: Date / Time
Relinquished By: Received By: Date / Time:

Received in Good Condition? ☐ Yes ☐ No Samples on Ice ☐ Yes ☐ No Method of Shipment ________ Page ___ of ___

25 September, 2001

MEMO

TO: Mark Abu-Tair, Ferma
FROM: Gary Wortham, Tetra Tech, Inc.
SUBJECT: Soil Sampling at Guadalupe Creek on September 18th and 21st

Four composite soil samples were collected on Tuesday September 18th, 2001. The description of the sampling locations is as follows:

SSG-50+50: Sheet G-9 Soil Stockpile east of Station 50+50 on north side of creek (West end)

The soil stockpile was divided into four sections. Hole #1 (southwest quadrant) was dug 0.5 ft beneath the pile surface at a location 10 ft in from the western end of the pile and 3 ft in from the southern side of the pile. Hole #2 (northwest quadrant) was dug 0.5 ft beneath the pile surface at a location 75 ft in from the western end of the pile and 6 ft in from the northern side of the pile. Hole #3 (southeast quadrant) was dug 0.5 ft beneath the pile surface at a location 37 ft in from the eastern end of the pile and 1 ft in from the southern side of the pile. Hole #4 (northeast quadrant) was dug 0.5 ft beneath the pile surface at a location 0.5 ft in from the eastern side of the pile and 4 ft in from the northern side of the pile.

SSG-68+50: Sheet G-12 Soil Stockpile located at Station 68+50 on the north side of creek (west end)

This soil stockpile was located at the edge of the levee road and was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 15 ft in from the eastern end of the pile and 1 ft in from the northern side of the pile. Hole #2 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 65 ft in from the eastern end of the pile and 3 ft in from the southern side of the pile. Hole #3 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 37.5 ft in from the western end of the pile and at the crest of the pile. Hole #4 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 5 ft in from the western side of the pile and 1 ft in from the southern side of the pile.

SSG-25+00: Sheet G-5 Flattened Soil Stockpile located between Stations 25+00 and 29+00 on the north side of creek (west end)

The soil stockpile was divided into eight sections. Hole #1 was dug 0.25 ft beneath the surface at a location 10 ft in from the western end of the "pile" and 12 ft in from the northern side of the "pile". Hole #2 was dug 0.25 ft beneath the surface at a location 8 ft in from the western end of the pile and 1 ft in from the southern side of the "pile". Hole #3 was dug 0.25 ft beneath the surface at a location 150 ft in from the western end of the "pile" and 12.5 ft in from the northern side of the pile. Hole #4 was dug 0.25 ft beneath the surface at a location 200 ft in from the western side of the "pile" and 3 ft in from the southern side of the pile. Hole #5 was dug 0.25 ft beneath the surface at a location 280 ft in from the western end of the "pile" and 3 ft in from the southern side of the "pile". Hole #6 was dug 0.25 ft beneath the surface at a location 250 ft in from the western end of the pile and 12.5 ft in from the southern side of the "pile". Hole #7 was dug 0.25 ft beneath the surface at a location 1 ft in from the eastern end of the "pile" and 1 ft in from the northern side of the pile. Hole #8 was dug 0.25 ft beneath the surface at a location 5 ft in from the eastern side of the "pile" and 5 ft in from the southern side of the pile.

SSG-8+00: Sheet G-2 Flattened Soil Stockpile located between Stations 5+00 and 8+00 on the north side of creek (west end)

The soil stockpile was divided into six sections. Hole #1 was dug 0.25 ft beneath the surface at a location 20 ft in from the western end of the "pile" (Station 8+00) and 10 ft in from the northern side of the "pile". Hole #2 was dug 0.25 ft beneath the surface at a location 10 ft in from the western end of the pile and 5 ft in from the southern side of the "pile". Hole #3 was dug 0.25 ft beneath the surface at a location 150 ft in from the western end of the "pile" and 15 ft in from the southern side of the pile. Hole #4 was dug 0.25 ft beneath the surface at a location 185 ft in from the western side of the "pile" and 1 ft in from the northern side of the pile. Hole #5 was dug 0.25 ft beneath the surface at a location 12 ft in from the eastern end of the "pile" (Station 5+00) and 1 ft in from the southern side of the "pile". Hole #6 was dug 0.25 ft beneath the surface at a location 27 ft in from the eastern end of the pile and 12 ft in from the northern side of the "pile".

R-1GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

Three composite soil samples were collected on Friday September 21, 2001. These samples were collected to re-evaluate elevated values obtained for mercury in one of the piles (SSG-50+50) during the September 18th sampling event. The original pile had been flattened and compacted, with a perimeter fence erected around an area that encompassed approximately 1/3 the area of the original pile. A composite sample was collected from inside and outside the perimeter fence. Additionally, a composite sample was collected from the soil source area (Station SSG-68+50).

SSG-50+50B: Sheet G-9 Soil from area within the perimeter fencing located at Station 50+50 on north side of creek (West end)

The fenced area was divided into four sections. Hole #1 (southwest quadrant) was dug 0.5 ft beneath the surface at a location 10 ft in from the western end of the fencing and 10 ft in from the southern side of the fencing. Hole #2 (southeast quadrant) was dug 0.5 ft beneath the surface at a location 15 ft in from the eastern side of the fencing and 23 ft in from the southern side of the fencing. Hole #3 (northeast quadrant) was dug 0.5 ft beneath the surface at a location 18 ft in from the eastern end of the fence and 17 ft in from the northern side of the fence. Hole #4 (northwest quadrant) was dug 0.5 ft beneath the surface at a location 5 ft in from the western side of the fence and 1 ft in from the northern side of the fence.

SSG-50+50C: Sheet G-9 Soil from area outside of the perimeter fencing located at Station 50+50 on north side of creek (West end)

The open area was divided into four sections. Hole #1 (southeast quadrant) was dug 0.5 ft beneath the surface at a location 35 ft in from the western end of the fencing and 1 ft in from the southern side of the "pile". Hole #2 (northeast quadrant) was dug 0.5 ft beneath the surface at a location 50 ft in from the western side of the fencing and 25 ft in from the northern side of the "pile". Hole #3 (southwest quadrant) was dug 0.5 ft beneath the surface at a location 8.7 ft in from the western end of the fence and 12 ft in from the southern side of the "pile". Hole #4 (northwest quadrant) was dug 0.5 ft beneath the surface at a location 98 ft in from the western side of the fence and 10 ft in from the northern side of the "pile".

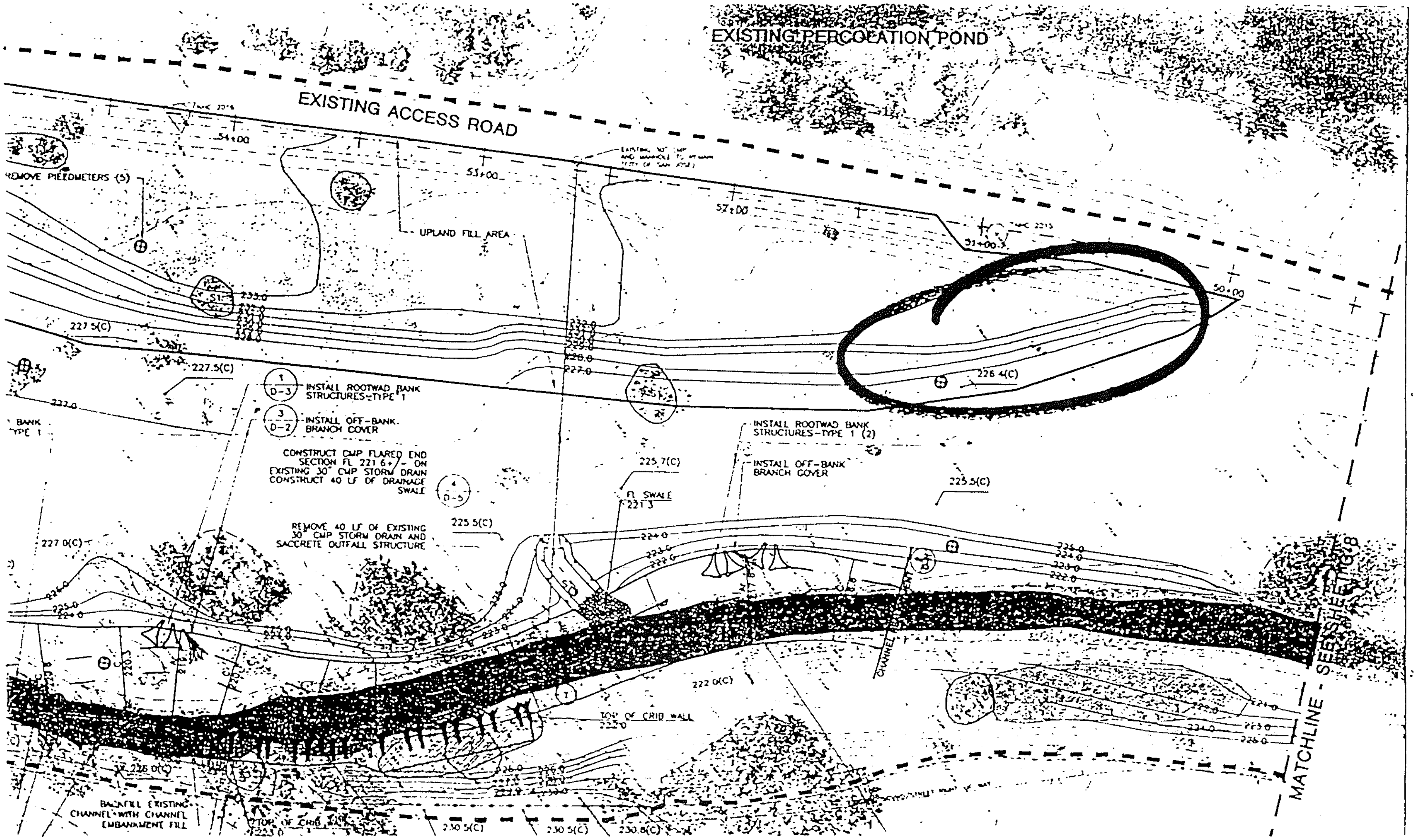
SSG-68+50B: Sheet G-12 Soil Stockpile located at Station 68+50 on the north side of creek (west end)

This soil stockpile was located at the edge of the levee road and was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 15 ft in from the eastern end of the pile and 1 ft in from the northern side of the pile. Hole #2 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 65 ft in from the eastern end of the pile and 3 ft in from the southern side of the pile. Hole #3 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 37.5 ft in from the western end of the pile and at the crest of the pile. Hole #4 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 5 ft in from the western side of the pile and 1 ft in from the southern side of the pile.

R-2GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

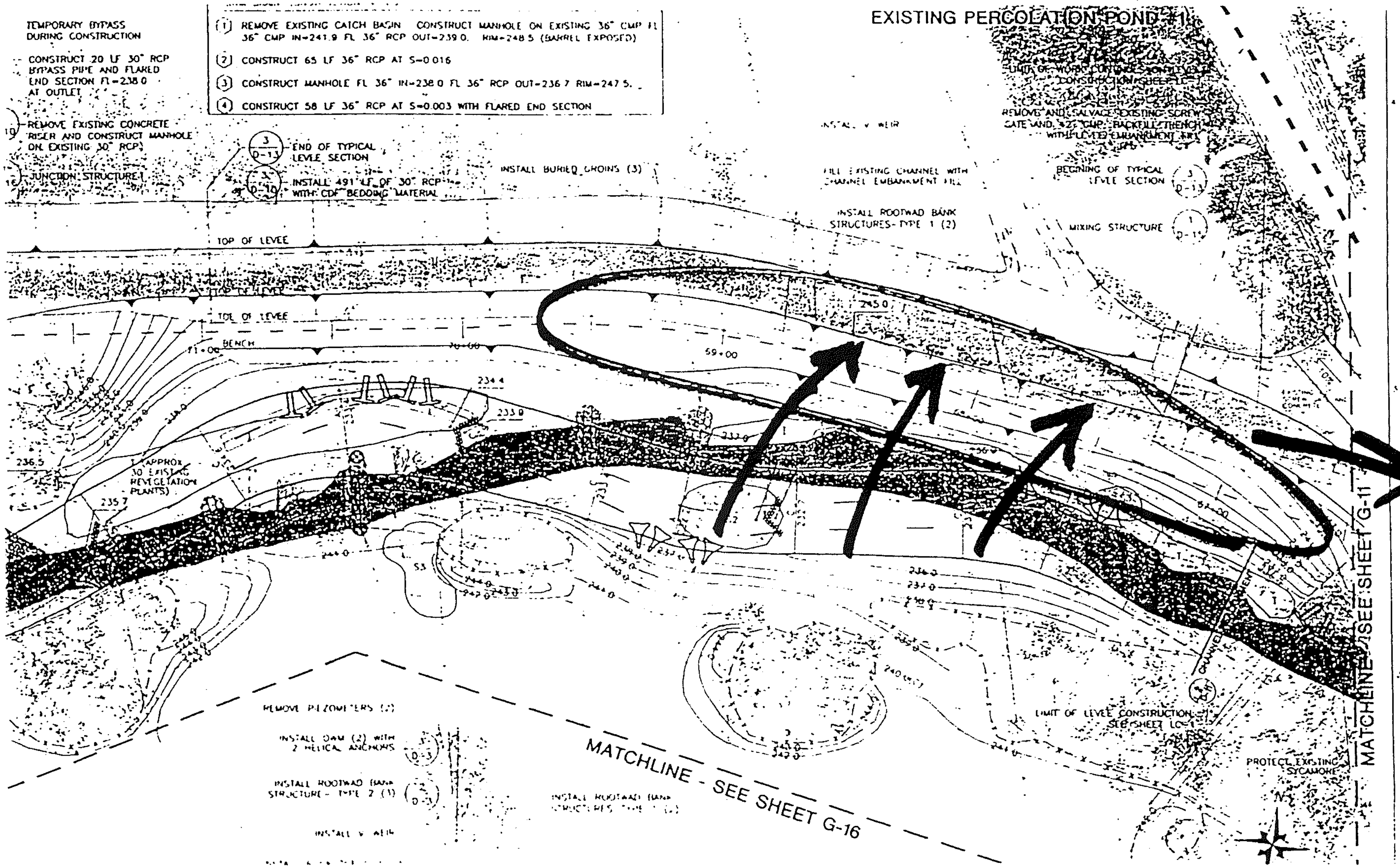
SSG 50+50


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
54+00
53+00
52+00
51+00
50+00
REMOVE PIEZOMETERS (5)
UPLAND FILL AREA
227.5(C)
227.5(C)
226.4(C)
1 D-3 INSTALL ROOTWAD BANK STRUCTURES-TYPE 1
3 D-2 INSTALL OFF-BANK BRANCH COVER
CONSTRUCT CMP FLARED END SECTION FL 221.6+/- ON EXISTING 30" CMP STORM DRAIN CONSTRUCT 40 LF OF DRAINAGE SWALE
4 D-5
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
225.5(C)
225.7(C)
FL SWALE 221.3
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK BRANCH COVER
225.5(C)
227.0(C)
222.0(C)
TOP OF CRIB WALL
CHANNEL
BACKFILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
TOP OF CRIB
230.5(C)
230.5(C)
230.8(C)
MATCHLINE - SEE SHEET G8

Source: Channel Excavation 69+00 -72+00

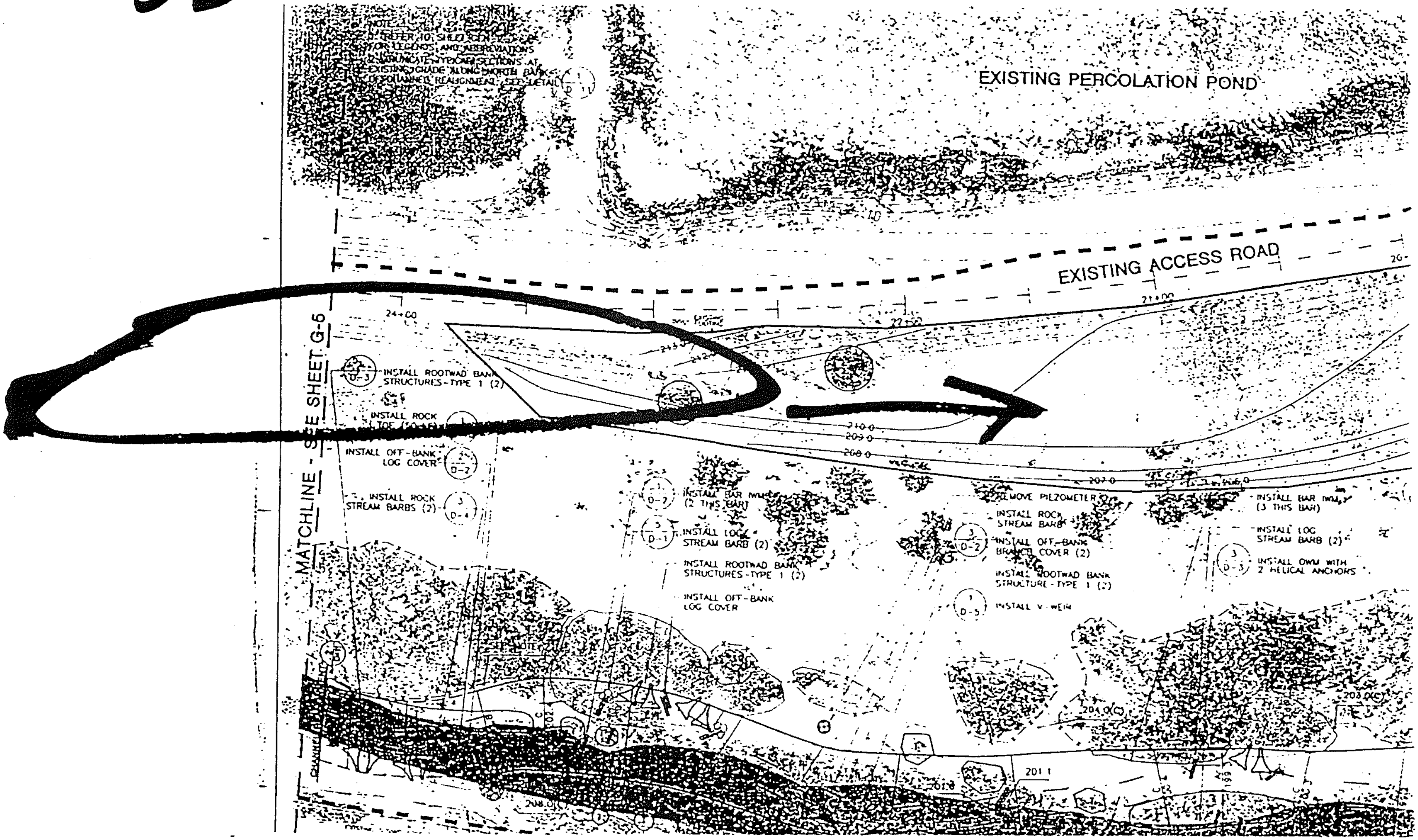
69+00 -72 0

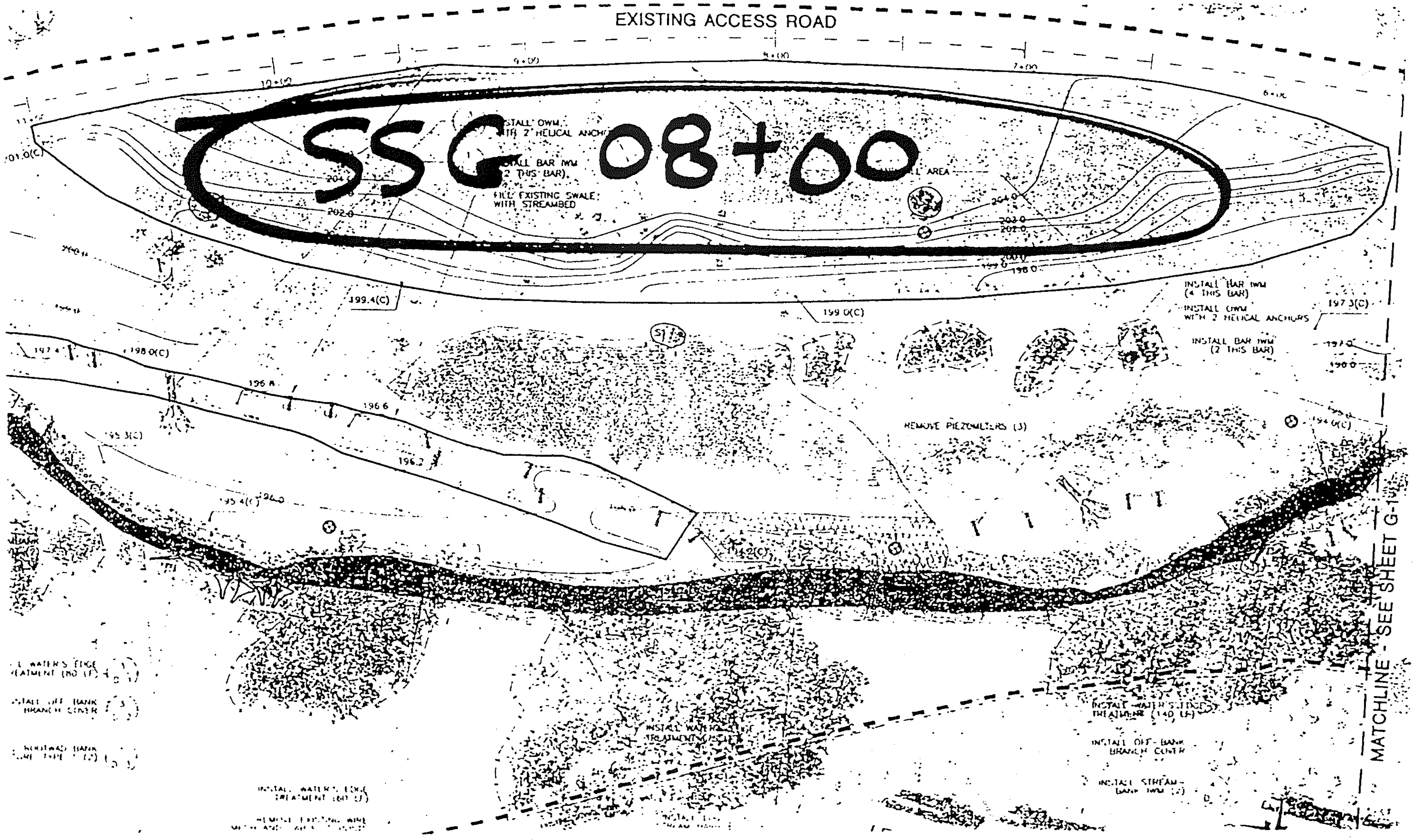
SSG 68+50


TEMPORARY BYPASS DURING CONSTRUCTION
CONSTRUCT 20 LF 30" RCP BYPASS PIPE AND FLARED END SECTION FL=238.0 AT OUTLET
(1) REMOVE EXISTING CATCH BASIN. CONSTRUCT MANHOLE ON EXISTING 36" CMP FL 36" CMP IN=241.9 FL 36" RCP OUT=239.0. RIM=248.5 (BARREL EXPOSED)
(2) CONSTRUCT 65 LF 36" RCP AT S=0.016
(3) CONSTRUCT MANHOLE FL 36" IN=238.0 FL 36" RCP OUT=236.7 RIM=247.5.
(4) CONSTRUCT 58 LF 36" RCP AT S=0.003 WITH FLARED END SECTION
REMOVE EXISTING CONCRETE RISER AND CONSTRUCT MANHOLE ON EXISTING 30" RCP
JUNCTION STRUCTURE 1
3/D-13 END OF TYPICAL LEVEE SECTION
3/D-10 INSTALL 491 LF OF 30" RCP WITH CDF BEDDING MATERIAL
INSTALL BURIED GROINS (3)
EXISTING PERCOLATION POND #1
LIMIT OF WORK CONTINUES ON LEVEE CONSTRUCTION SHEET LC
REMOVE AND SALVAGE EXISTING SCREW GATE AND 42" CMP. BACKFILL TRENCH WITH LEVEE EMBANKMENT FILL
INSTALL V WEIR
FILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
INSTALL ROOTWAD BANK STRUCTURES- TYPE 1 (2)
BEGINING OF TYPICAL LEVEE SECTION 3/D-13
MIXING STRUCTURE 1/D-11
TOP OF LEVEE
TOE OF LEVEE
BENCH
71+00
70+00
69+00
245.0
234.4
233.9
233.0
236.5
235.7
APPROX 30 EXISTING REVEGETATION PLANTS
244.0
53
236.0
237.0
240.0
240 (E)
243.0
242.0
LIMIT OF LEVEE CONSTRUCTION SEE SHEET LC
PROTECT EXISTING SYCAMORE
REMOVE PIEZOMETERS (2)
INSTALL DAM (2) WITH 2 HELICAL ANCHORS D-3
INSTALL ROOTWAD BANK STRUCTURE - TYPE 2 (3) D-3
INSTALL ROOTWAD BANK STRUCTURES TYPE 1 (2)
INSTALL V WEIR
MATCHLINE - SEE SHEET G-16
MATCHLINE - SEE SHEET G-11
N

Moved, used at upland fill
52+00-56+00

SSG 25+00


NOTE:
1. REFER TO SHEET [illegible] FOR LEGENDS AND ABBREVIATIONS
2. TRUNCATE TYPICAL SECTIONS AT EXISTING GRADE ALONG NORTH BANK OF CHANNEL REALIGNMENT. SEE DETAIL 1/D-11
EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET G-6
24+00
22+00
21+00
210.0
209.0
208.0
207.0
206.0
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2) D-3
INSTALL ROCK TOE
INSTALL OFF-BANK LOG COVER 2/D-2
INSTALL ROCK STREAM BARBS (2) 3/D-4
INSTALL BAR (2 THIS BAR) 1/D-2
INSTALL LOG STREAM BARB (2) 3/D-1
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK LOG COVER
REMOVE PIEZOMETER
INSTALL ROCK STREAM BARB
INSTALL OFF-BANK BRANCH COVER (2) 3/D-2
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 (2)
INSTALL V-WEIR 1/D-5
INSTALL BAR (3 THIS BAR)
INSTALL LOG STREAM BARB (2)
INSTALL OWM WITH 2 HELICAL ANCHORS 3/D-3
201.1
204.0(C)
203.0(C)
208.0


EXISTING ACCESS ROAD
10+00
9+00
8+00
7+00
6+00
SSG 08+00
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
FILL EXISTING SWALE WITH STREAMBED
AREA
204.0
202.0
201.0(C)
200.0
199.4(C)
199.0(C)
198.0(C)
197.4
196.8
196.6
196.2
195.3(C)
195.4(C)
197.3(C)
197.0
196.0
194.0(C)
INSTALL BAR IWM (4 THIS BAR)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL BAR IWM (2 THIS BAR)
REMOVE PIEZOMETERS (3)
WATER'S EDGE TREATMENT (80 LF)
INSTALL OFF BANK BRANCH COVER
ROOTWAD BANK
INSTALL WATER'S EDGE TREATMENT (60 LF)
INSTALL WATER'S EDGE TREATMENT (140 LF)
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM-BANK IWM (2)
MATCHLINE - SEE SHEET G-1

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

ORIGINAL

28 September, 2001

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE: -
Sequoia Report: MKI0417

Enclosed are the results of analyses for samples received by the laboratory on 09/21/01 14:26. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tim Costello For Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

TCLP

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

ORIGINAL

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-50-50-B	MKI0417-01	Soil	09/21/01 09:00	09/21/01 14:26
SSG-50-50-C	MKI0417-02	Soil	09/21/01 10:15	09/21/01 14:26
SSG-68-50-B	MKI0417-03	Soil	09/21/01 10:45	09/21/01 14:26
SSG-68-50-B	MKI0417-04	Water	09/21/01 11:00	09/21/01 14:26

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tim Costello For Wayne Stevenson, Client Services Manager

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:29

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-50+50-B (MKI0417-01) Soil Sampled: 09/21/01 09:00 Received: 09/21/01 14:26									
Mercury	7.3	0.057	mg/kg	15	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-50+50-C (MKI0417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26									
Mercury	61	0.50	mg/kg	120	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-68+50-B (MKI0417-03) Soil Sampled: 09/21/01 10:45 Received: 09/21/01 14:26									
Mercury	30	0.21	mg/kg	60	1124016	09/24/01	09/24/01	EPA 7471A	
SSG-68+50-B (MKI0417-04) Water Sampled: 09/21/01 11:00 Received: 09/21/01 14:26									
Mercury	ND	0.00020	mg/l	1	1124020	09/24/01	09/25/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:29

TCLP Metals by EPA 1311/6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-50+50-C (MK10417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26									
Mercury	ND	0.00020	mg/l	1	1128010	09/28/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-50+50-C (MK10417-02) Soil Sampled: 09/21/01 10:15 Received: 09/21/01 14:26									
Moisture	5.5	0.10	%	1	1126024	09/25/01	09/26/01	EPA 160.3	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1124016 - EPA 7471A										
Blank (1124016-BLK1)				Prepared & Analyzed: 09/24/01						
Mercury	ND	0.0040	mg/kg							
LCS (1124016-BS1)				Prepared & Analyzed: 09/24/01						
Mercury	0.674	0.0040	mg/kg	0.667		101	80-120			
Matrix Spike (1124016-MS1)		Source: MK10417-01		Prepared & Analyzed: 09/24/01						
Mercury	19.4	0.11	mg/kg	0.635	7.3	1910	75-125			QM-07
Matrix Spike Dup (1124016-MSD1)		Source: MK10417-01		Prepared & Analyzed: 09/24/01						
Mercury	9.45	0.057	mg/kg	0.635	7.3	339	75-125	69.0	20	QM-07
Batch 1124020 - EPA 7470A										
Blank (1124020-BLK1)				Prepared: 09/24/01 Analyzed: 09/25/01						
cury	ND	0.00020	mg/l							
LCS (1124020-BS1)				Prepared: 09/24/01 Analyzed: 09/25/01						
Mercury	0.00789	0.00020	mg/l	0.00800		98.6	80-120			
Matrix Spike (1124020-MS1)		Source: MK10428-01		Prepared: 09/24/01 Analyzed: 09/25/01						
Mercury	0.00784	0.00020	mg/l	0.00800	ND	98.0	75-125			
Matrix Spike Dup (1124020-MSD1)		Source: MK10428-01		Prepared: 09/24/01 Analyzed: 09/25/01						
Mercury	0.00806	0.00020	mg/l	0.00800	ND	101	75-125	2.77	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

TCLP Metals by EPA 1311/6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1128010 - EPA 7470A										
Blank (1128010-BLK1)				Prepared & Analyzed: 09/28/01						
Mercury	ND	0.00020	mg/l							
LCS (1128010-BS1)				Prepared & Analyzed: 09/28/01						
Mercury	0.00831	0.00020	mg/l	0.00800		104	80-120			
Matrix Spike (1128010-MS1)		Source: MK10330-01		Prepared & Analyzed: 09/28/01						
Mercury	0.00844	0.00020	mg/l	0.00800	ND	106	75-125			
Matrix Spike Dup (1128010-MSD1)		Source: MK10330-01		Prepared & Analyzed: 09/28/01						
Mercury	0.00846	0.00020	mg/l	0.00800	ND	106	75-125	0.237	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation 1265 Montecito Ave Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 15:29

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1126024 - General Preparation										
Duplicate (1126024-DUP1)		Source: MK10330-01		Prepared: 09/25/01	Analyzed: 09/26/01					
Moisture	8.90	0.10	%		11			21.1	20	QR-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 15:29

Notes and Definitions

QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-07	The RPD was outside control limits. The results may still be useful for their intended purpose.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

☐ 1455 McDowell Blvd. North, Suite D • **Petaluma, CA 94954** • (707) 792-1865 • FAX (707) 792-0342
☐ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100
☐ 1551 Industrial Road • **San Carlos, CA 94070** • (650) 232-9600 • FAX (650) 232-9612
☐ 404 N. Wiget Lane • **Walnut Creek, CA 94598** • (925) 988-9600 • FAX (925) 988-9673

Company Name: Gema
Project:
Mailing Address: 1265 Montecito Ave, Suite 210
Billing Address (if different):
City: Mountain View State: CA Zip Code: 94043
Telephone: (650) 245-1523 Fax #:
P.O. #:
Report To: Mark Abu-Tair E-Mail:
QC Data: ☐ Level II (Standard) ☐ Level III ☐ Level IV
Sampler: C. Worthan Date / Time Results Required:
Sequoia's Work Order # MK10417

Turnaround Time: ☐ 10 - 15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 Hours ☐ 48 Hours ☒ 24 Hours ☐ 2-8 Hours
Rush

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☒ Other

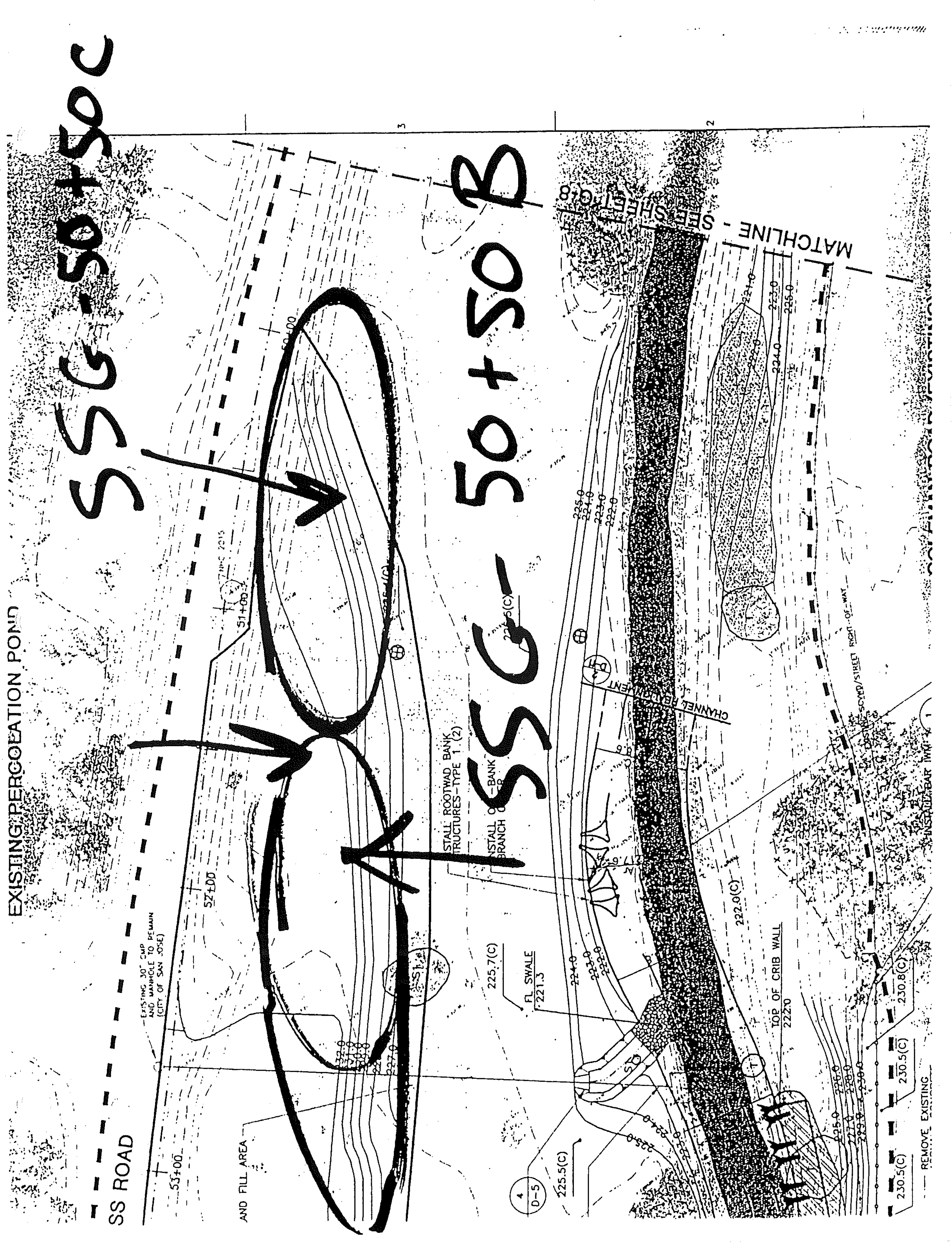
ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	Total Hg 7471									Comments/ Temp.(If required)
1. SSG-50150 B	9/21/01/1000	Soil	2	P	01	X									Make 1 composite of 2 containers
2. SSG-50150-C	9/21/01/1015	Soil	2	P	02	X									
3. SSG-68150-B	9/21/01/1045	Soil	2	P	03	X									
4. R-2GW	9/21/01/1100	Water	1	P	04	X									
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished By: Received By: Ken Glomedo Date / Time: 9-21-01 11:15 AM
Relinquished By: Ken Glomedo Received By: Date / Time: 9/21/01 1426
elinquished By: Received By: Date / Time
nquished By: Received By: Date / Time:

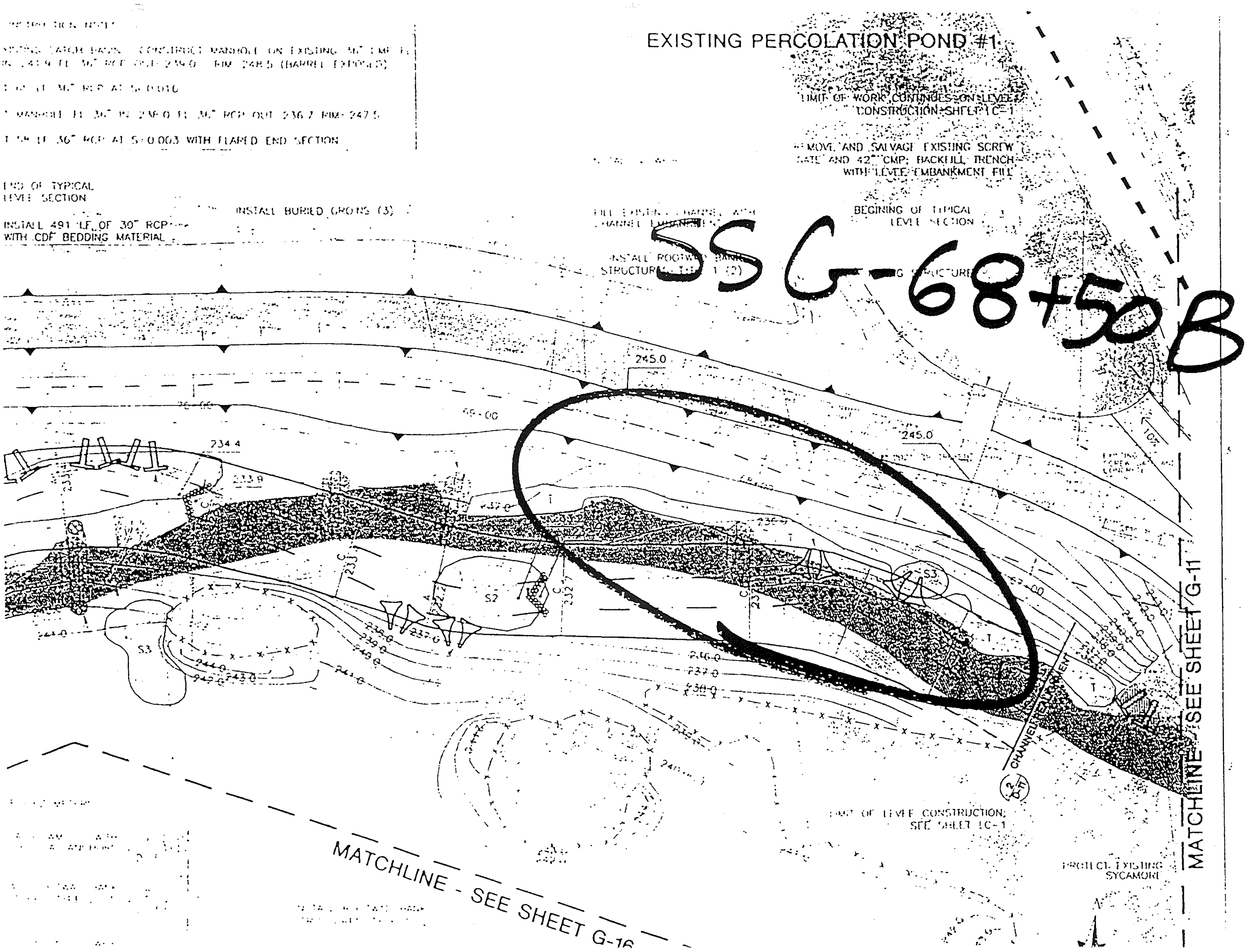
ples R ed in Good Condition? ☒ Yes ☐ No Samples on Ice? – Yes ☐ No Method of Shipment Customer Page of

Pink - Client
Yellow - Sequoia
White - Sequoia



SSG-50+50C

SSG-50+50B


EXISTING PERCOLATION POND #1
LIMIT OF WORK CONTINUES ON LEVEE CONSTRUCTION SHEET LC-1
REMOVE AND SALVAGE EXISTING SCREW GATE AND 42" CMP; BACKFILL TRENCH WITH LEVEE EMBANKMENT FILL
BEGINING OF TYPICAL LEVEE SECTION
FILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT
INSTALL ROOTWAD BANK STRUCTURES TYPE 1 (2)
STRUCTURE
MANHOLE ON EXISTING 36" CMP; IN 243.9 FL 36" RCP OUT 239.0 RIM 248.5 (BARREL EXPOSED)
LF 36" RCP AT S=0.016
MANHOLE FL 36" IN 236.0 FL 36" RCP OUT 236.7 RIM 247.5
58 LF 36" RCP AT S=0.003 WITH FLARED END SECTION
END OF TYPICAL LEVEE SECTION
INSTALL BURIED GROINS (3)
INSTALL 491 LF OF 30" RCP WITH CDF BEDDING MATERIAL
245.0
245.0
69+00
234.4
233.8
247.0
236.0
S2
S3
S3
233
232.7
237
236.0
237.0
238.0
239.0
240.0
241.0
243.0
244.0
242.0
CHANNEL REALIGNMENT
2
G-17
LIMIT OF LEVEE CONSTRUCTION; SEE SHEET LC-1
PROTECT EXISTING SYCAMORE
MATCHLINE - SEE SHEET G-16
MATCHLINE - SEE SHEET G-11

SSG-68+50B

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

28 September, 2001

ORIGINAL

Mark Abu-Tair
Ferma Corporation
1265 Montecito Ave.
Mountain View, CA 94073

RE: -
Sequoia Report: MKI0523

Enclosed are the results of analyses for samples received by the laboratory on 09/26/01 14:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tim Costello For Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

STLC
Included
off haul to
ultmont

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

ORIGINAL

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 16:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-55-00	MK10523-01	Soil	09/26/01 11:21	09/26/01 14:20
SSG-51-00	MK10523-02	Soil	09/26/01 12:00	09/26/01 14:20
R-3GW	MK10523-03	Water	09/26/01 12:30	09/26/01 14:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tim Costello for Wayne Stevenson, Client Services Manager

Ferma Corporation	Project: -	
1265 Montecito Ave	Project Number: -	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	09/28/01 16:41

Total Metals by EPA 200 Series Methods
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
R-3GW (MK10523-03) Water Sampled: 09/26/01 12:30 Received: 09/26/01 14:20									
Lead	ND	0.10	mg/l	1	1127018	09/27/01	09/28/01	EPA 200.7	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 16:41

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-55+00 (MKI0523-01) Soil	**Sampled: 09/26/01 11:21**	**Received: 09/26/01 14:20**							
Mercury	6.0	0.12	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	11	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
SSG-51+00 (MKI0523-02) Soil	**Sampled: 09/26/01 12:00**	**Received: 09/26/01 14:20**							
Mercury	11	0.11	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	12	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
R-3GW (MKI0523-03) Water	**Sampled: 09/26/01 12:30**	**Received: 09/26/01 14:20**							
Mercury	ND	0.00020	mg/l	1	1127011	09/27/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 16:41

Total Metals by EPA 200 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I27018 - EPA 3005A										
Blank (1I27018-BLK1)				Prepared: 09/27/01	Analyzed: 09/28/01					
Lead	ND	0.10	mg/l							
LCS (1I27018-BS1)				Prepared: 09/27/01	Analyzed: 09/28/01					
Lead	1.16	0.10	mg/l	1.00		116	80-120			
Matrix Spike (1I27018-MS1)		Source: MKI0361-01		Prepared: 09/27/01	Analyzed: 09/28/01					
Lead	1.16	0.10	mg/l	1.00	ND	116	80-120			
Matrix Spike Dup (1I27018-MSD1)		Source: MKI0361-01		Prepared: 09/27/01	Analyzed: 09/28/01					
Lead	1.12	0.10	mg/l	1.00	ND	112	80-120	3.51	20	

Ferma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
09/28/01 16:41

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1126033 - EPA 3050B										
Blank (1126033-BLK1)				Prepared: 09/26/01 Analyzed: 09/27/01						
Lead	ND	5.0	mg/kg							
LCS (1126033-BS1)				Prepared: 09/26/01 Analyzed: 09/27/01						
Lead	57.0	5.0	mg/kg	50.0		114	80-120			
Matrix Spike (1126033-MS1)	Source: MKI0523-01			Prepared: 09/26/01 Analyzed: 09/27/01						
Lead	43.2	5.2	mg/kg	52.1	11	61.8	80-120			QM-07
Matrix Spike Dup (1126033-MSD1)	Source: MKI0523-01			Prepared: 09/26/01 Analyzed: 09/27/01						
Lead	58.2	5.2	mg/kg	51.5	11	91.7	80-120	29.6	20	QR-07
Batch 1127011 - EPA 7470A										
Blank (1127011-BLK1)				Prepared: 09/27/01 Analyzed: 09/28/01						
Mercury	ND	0.00020	mg/l							
LCS (1127011-BS1)				Prepared: 09/27/01 Analyzed: 09/28/01						
Mercury	0.00811	0.00020	mg/l	0.00800		101	80-120			
Matrix Spike (1127011-MS1)	Source: MKI0523-03			Prepared: 09/27/01 Analyzed: 09/28/01						
Mercury	0.00823	0.00020	mg/l	0.00800	ND	103	75-125			
Matrix Spike Dup (1127011-MSD1)	Source: MKI0523-03			Prepared: 09/27/01 Analyzed: 09/28/01						
Mercury	0.00825	0.00020	mg/l	0.00800	ND	103	75-125	0.243	20	
Batch 1127012 - EPA 7471A										
Blank (1127012-BLK1)				Prepared & Analyzed: 09/27/01						
Mercury	ND	0.0040	mg/kg							

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 16 41

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I27012 - EPA 7471A										
LCS (1I27012-BS1)				Prepared & Analyzed: 09/27/01						
Mercury	0.667	0 0040	mg/kg	0.667		100	80-120			
Matrix Spike (1I27012-MS1)		Source: MK10523-02		Prepared & Analyzed: 09/27/01						
Mercury	6 94	0.12	mg/kg	0 690	11	-588	75-125			QM-07
Matrix Spike Dup (1I27012-MSD1)		Source: MK10523-02		Prepared & Analyzed: 09/27/01						
Mercury	9 86	0 12	mg/kg	0.656	11	-174	75-125	34.8	20	QM-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Tair	Reported: 09/28/01 16:41

Notes and Definitions

QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-07	The RPD was outside control limits. The results may still be useful for their intended purpose.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
☐ 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673

Company Name: Ferma
Project:
Mailing Address: 1265 Montecito Ave, Suite 210
Billing Address (if different):
City: Mountain View State: CA Zip Code: 94043
Telephone: (650) 245-1523 Fax #:
P.O. #:
Report To: Mark Abu-Tair E-Mail:
QC Data: ☐ Level II (Standard) ☐ Level III ☐ Level IV
Sampler: G. Wortham
Date / Time Results Required:
Sequoia's Work Order # MKI 0523

Pink - Client

Turnaround Time:
☐ 10 - 15 Working Days (Standard TAT)
☐ 7 Working Days
☐ 5 Working Days
☐ 72 Hours
☐ 48 Hours
☒ 24 Hours
☐ 2-8 Hours
Rush

MANDATORY:
☐ SDWA (Drinking Water)
☐ CWA (Waste Water)
☐ RCRA (Hazardous Waste)
☑ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Container Type	Sequoia's Sample #	Total Hg 7471	Total Pb (ICP)								Comments/ Temp.(If required)
1. SSG-55+00	9/26/01/1121	Soil	2	P	01	X	X								Make 1 Composit of 2 Containers
2. SSG-51+00	9/26/01/1200	Soil	2	P	02	X	X								
3. R-36W	9/26/01/12^{30}	Water	1	P	03	X	X								
4.															
5.															
6.															
7.															
8.															
9.															
10.															

Yellow - Sequoia

White - Sequoia

Relinquished By:	Received By: Ken Alameda	Date / Time: 9-26-01 12:30 PM
Relinquished By: Ken Alameda	Received By:	Date / Time: 9-26-01 1420
nquished By:	Received By:	Date / Time
hed By:	Received By:	Date / Time:

ved in Good Condition? ☑ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment Client Page 1 of 1

3746 Mt. Diablo Blvd. #300, Lafayette, CA 94549
(925) 283-3771 FAX (925) 283-0780

Tetra Tech, Inc.

Tt Fax

To: Mark Abu-Tair
From: Karen Summers
Fax:
Pages: 3
Phone:
Date: 10/9/01
Re: STLC Results for Guadalupe Creek
CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

---

The STLC limit of 0.2 mg/L was not exceeded by the 2 soil samples tested.

We are transmitting from a Canon CFX-L4500 facsimile system

(925) 283-0780

Sequoia
Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: - Project Manager: Mark Abu-Telf	Reported: 10/09/01 09:01

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-55+00 (MK10523-01) Soil Sampled: 09/26/01 11:21 Received: 09/26/01 14:20									
Mercury	6.0	0.12	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	11	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
SSG-51+00 (MK10523-02) Soil Sampled: 09/26/01 12:00 Received: 09/26/01 14:20									
Mercury	11	0.11	mg/kg	30	1127012	09/27/01	09/27/01	EPA 7471A	
Lead	13	4.9	"	1	1126033	09/26/01	09/27/01	EPA 6010A	
B-3GW (MK10523-03) Water Sampled: 09/26/01 12:30 Received: 09/26/01 14:20									
Mercury	ND	0.00020	mg/l	1	1127011	09/27/01	09/28/01	EPA 7470A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

WM

ALTAMONT LANDFILL & RESOURCE RECOVERY FACIL
A WASTE MANAGEMENT COMPANY

Sales Department
10840 Altamont Pass Road
Livermore, CA 94550-9745
(925) 455-7300
(925) 455-7383 Fax

August 17, 2001

Mark Abu-Tair
FERMA CORPORATION

FAX: 650/968-3945

Subject: Santa Clara Valley Water Dist-Guadalupe Creek

Altamont Landfill & Resource Recovery Facility (Altamont) is pleased to submit this conditional pre-approval for soil at the Guadalupe Creek site in San Jose.

Conditions for final acceptance into the Altamont Landfill are contingent upon, signed certified analytical with chain of custody per sampled area be submitted for review through the Altamont's waste approval process. Only those areas reviewed and approved in writing may ship to the Altamont. A waste acceptance form will be provided upon final approval of the waste. A copy of the waste acceptance form should be given to each driver for every load that comes to the Altamont Landfill.

The following conditions prevail regarding the aforementioned project.

No free liquids, moisture content must be less than 50%.

- *All jobs must commence within 60 days of the dated letter.*
- *Late Fees will be assessed on balances exceeding 45 days*
- *We reserve the right to increase pricing 60 days after the date of this letter, or if waste stream conditions change.*

Thank you for the opportunity to provide service for your waste disposal. If you have any questions or need further assistance, please feel free to contact us.

Sincerely,
Altamont Landfill and Resource Recovery Facility
Peggy Francione Friddle
Peggy Francione Friddle
Inside Sales Representative

SCVWD
☐ NO EXCEPTION NOTED
☑ APPROVED AS NOTED
☐ REVISE AND RESUBMIT ☐ IN RECEIPT OF
☐ REJECT
☑ SEE ATTACHED COMMENTS
BY AG DATE 8/27

Chemical Waste Management, Inc.

GENERATOR'S WASTE PROFILE SHEET

Date Printed 10/05/01

Profile #
KHF EB4320

(_) Check here if this is a Recertification

LOCATION OF ORIGINAL KETTLEMAN HILLS FACILITY

GENERAL INFORMATION

1. Generator Name: SANTA CLARA VALLEY WATER DIST
2. Generator Address: INTERSECTION OF ALMADEN EXP
AND COLEMAN AVE
SAN JOSE CA 95118
3. Technical Contact/Phone: MARK ABU-TAIR 650/245-1523
4. Alternate Contact/Phone: KEN ALAMEDA 408/832-4899

Generator USEPA ID: CAC002365063

Billing Address: (_) Same
FERMA CORP
1265 MONTECITO AVE #200
MOUNTAIN VIEW CA 94043

Billing Contact/Phone: MARK ABU-TAIR 650/245-1523

PROPERTIES AND COMPOSITION

5. Process Generating Waste: EXCAVATION DURING RESTORATION OF CREEK

6. Waste Name: MERCURY CONTAMINATED SOIL

7A. Is this a USEPA hazardous waste (40 CFR Part 261)? Yes (_) No (X)
B. Identify ALL USEPA listed and characteristic waste code numbers (D,F,K,P,U):

State Waste Codes: 611

8. Physical State @ 70F: A. Solid(X) Liquid(_) Both(_) Gas(_) B. Single Layer (X) Multilayer (_) C. Free liq. range 0 to 0%

9A. pH: Range ________ or Not applicable (X) B. Strong Odor (_);describe

10. Liquid Flash Point: < 73F (_) 73-99F (_) 100-139F (_) 140-199F (_) >= 200F (_) N.A. (X) Closed Cup (X) Open Cup (_)

11. CHEMICAL COMPOSITION: List ALL constituents (incl. halogenated organics) present in any concentration and forward analysis

Constituents	Range		Unit Description
SOIL	to	100	%
MERCURY	0 to	61	MG/KG
MERCURY	0 to	.0002	MG/L TC
LEAD	0 to	14.0	MG/KG
	to		
	to		
TOTAL COMPOSITION (MUST EQUAL OR EXCEED 100%):		100.000000	

12. OTHER: PCBs if yes, concentration _ ________ ppm, PCBs regulated by 40 CFR 761 (_). Pyrophoric (_) Explosive (_)
Radioactive (_) Benzene if yes, concentration _ ________ ppm. NESHAP (N) Shock Sensitive (_) Oxidizer (_)
Carcinogen (_) Infectious (_) Other

13. If waste subject to the land ban & meets treatment standards, check here: _ & supply analytical results where applicable.

SHIPPING INFORMATION

14. PACKAGING: Bulk Solid (X) Bulk Liquid (_) Drum (_) Type/Size: TONS Other

15. ANTICIPATED ANNUAL VOLUME: 25000 Units: TONS Shipping Frequency: ONE TIME

Sample Tracking Number: 495'381

SAMPLING INFORMATION

16a. Sample source (drum, lagoon, pond, tank, vat, etc.):

Date Sampled: ______ Sampler's Name/Company:

16b. Generator's Agent Supervising Sampling: ________ 17. (_) No sample required (See instructions.)

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of
this waste. Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. All
relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize
CWM to obtain a sample from any waste shipment for purposes of recertification.

Signature on original profile EB4320
Signature

DAVID J CHESTERMAN ASST. OPER. OFFICER
Name and Title

8/14/01
Date

Ferma Corporation Guadalupe Creek Restoration Project 10/15 Job No 4330

Excavation From	Station		Side	*Stockpile	at Station		Use at Station			Sample ID				Lab ID		Sampling Date	TOTAL Hg	Lead	Remarks		
Flood Plane Excavation	0+00	11+00	N	5000 CY			Upland Fill Area	5+50	11+00	SS	G	-	2 8	MKG0553-	2	7/30/2001	19	7.6			
										SS	G	-	E1-E5	MKH0233	1	8/13/2001	2.7	8.1			
Bank Excavation	11+00	15+75	N	Upland Fill Area	5+50	11+00				SS	G	-	08+00	MKI0330-	4	9/18/2001	11	14			
				6500 CY						SS	G	-	18.5	MKG0377-	6	7/19/2001	6.8	11			
Channel Excavation	19+50	24+00								SS	G	-	4.22	MKG0377-	3	7/19/2001	3.9	ND	In Place Test/ Channel	19+50-	24+00
Channel Excavation	27+50	29+00		Upland Fill Area	17+00	23+50	Upland Fill Area	17+00	23+50	SS	G	-	5.27	MKG0377-	2	7/19/2001	9.5	ND	In Place Test/ Channel	27+50-	29+00
Bank Excavation	26+00	36+75	N							SS	G	-	5(29.1-150)	MKH0143-	1	8/8/2001	0.28	5.8			
Flood Plain Excavation	38+00	41+00	S							SS	G	-	25+00	MKI0330	3	9/18/2001	13	13			
Flood Plain Excavation	43+00	44+00	S	7500 CY						SS	G	-	9.53	MKG0377-	1	7/19/2001	1.7	17			
Flood Plain Excavation	45+00	46+50	S							SS	G	-	10 58	W108306	3	8/16/2001	3.2	9.4			
Flood Plain Excavation	44+50	46+50	N																		
Flood Plain Excavation	47+50	50+50	S							SS	G	-	68+50	MKI0330	2	9/18/2001	3.8	12			
Channel Excavation	51+00	54+50		Upland Fill Area	50+00	56+50	Upland Fill Area	50+00	56+50												
and Bank Excavation	51+00	54+50	N																		
and Bank Excavation	51+00	54+50	S																		
Channel Excavation	55+50	57+50																			
Flood Plain Excavation	55+50	64+00	N																		
Flood Plain Excavation Existing Levee	65+50	69+00	N	3545 TON			Off Haul to Waste Management Ultamont Land Fill			SS	G	-	55+00	MKI0523	1	9/26/2001	6	11	STLC: .0013 Hg		
				Flood Plain Area	50+00	56+50				SS	G	-	51+00	MKI0523	2	9/26/2001	11	12	STLC: .00094 Hg		
										SS	G	-	1270B	MKJ0198	4	10/9/2001	3.9	60	STLC: ND		
				341 TON						SS	G	-	50+50	MKI0330	1	9/18/2001	50	8.1	TCLP: ND		
										SS	G	-	50+50-B	MKI0417	1	9/21/2001	7.3	8.1	Confirm test MK00330-1		
Channel Excavation	67+00	72+50		Flood Plain Area	50+00	56+50	Off Haul to Waste Management Kettleman Land Fill			SS	G	-	50+50-C	MKI0417	2	9/21/2001	61	8.1	Confirm test MK00330-1		
										SS	G	-	68+50-B	MKI0417	3	9/21/2001	30	8.1	Confirm test MK00330-1		
										SS	G	-	1270B	MKJ0198	3	10/9/2001	78	32	Confirm test MK00417-3		
Flood Plane Excavation	67+00	71+50	S	New Levee	69+00	71+00	New Levee	66+00	72+00	SS	G	-	12 72	W108306	1	8/16/2001	3.2	11			
				4500 CY						SS	G	-	12 68	W108306	2	8/16/2001	3.8	11			
				8000 CY						SS	G	-	68+50	MKI0330	2	9/18/2001	3.8	12	Moved to upland fill area	50+00	56+50
Class A/ flood plain	73+00	83+00	S	Flood Plain Area	73+00	80+00	Top Soil	0+00	83+00	SS	G	-	13.72F	MKG0337	4	7/17/2001	1.7	ND	In Place Test/ Open Field		
										SS	G	-	13.72W	MKG0337	5	7/17/2001	1.1	11			
										SS	G	-	13.73	MKG0553	1	7/30/2001	3.6	12			
							Earth Berm	70+50	80+50	SS	G	-	13.8+/-100	MKG0553	3	7/30/2001	10	9			
Flood Plain Excavation	73+00	83+00	N	Flood Plain Area	73+00	83+00	Off Haul to Waste Management Kettleman Land Fill			SS	G	-	1377A	MKJ0198	1	10/9/2001	56	18			
				300	TON					SS	G	-	1377B	MKJ0198	1	10/9/2001	20	20			

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Forma Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: -
Project Manager: Mark Abu-Tair

Reported:
10/09/01 09:01

STLC CAM Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-55+00 (MKI0523-01) Soil Sampled: 09/26/01 11:21 Received: 09/26/01 14:20									
Mercury	0.0013	0.00020	mg/l	1	1J08026	10/08/01	10/08/01	EPA 7470A	
SG-51+00 (MKI0523-02) Soil Sampled: 09/26/01 12:00 Received: 09/26/01 14:20									
Mercury	0.00094	0.00020	mg/l	1	1J08025	10/08/01	10/08/01	EPA 7470A	

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27 September, 2001

MEMO

TO: Mark Abu-Tair, Ferma
FROM: Gary Wortham, Tetra Tech, Inc.
SUBJECT: Soil Sampling at Guadalupe Creek on September 26th

Two composite soil samples were collected on Wednesday September 26th, 2001. The description of the sampling locations is as follows:

SSG-55+00: Soil Excavated from Sheet G-12 Soil Stockpile at Station 68+50 through 70+50 and stored west of Station 50+50 (Sheet G-9) on north side of creek (West end)

The soil stockpile was excavated from an area between Stations 68+50 and 70+50 and placed on a plastic tarp located at Station 55+00. The soil stockpile was divided into four sections. Hole #1 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 27 ft in from the eastern end of the pile and 10 ft in from the northern side of the pile. Hole #2 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 10 ft in from the western end of the pile and 5 ft in from the northern side of the pile. Hole #3 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 3 ft in from the western end of the pile and 3 ft in from the southern side of the pile. Hole #4 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 50 ft in from the eastern side of the pile and 12 ft in from the southern side of the pile.

SSG-51+00: Sheet G-9 Soil Stockpile located at Station 51+00 on the north side of creek (west end)

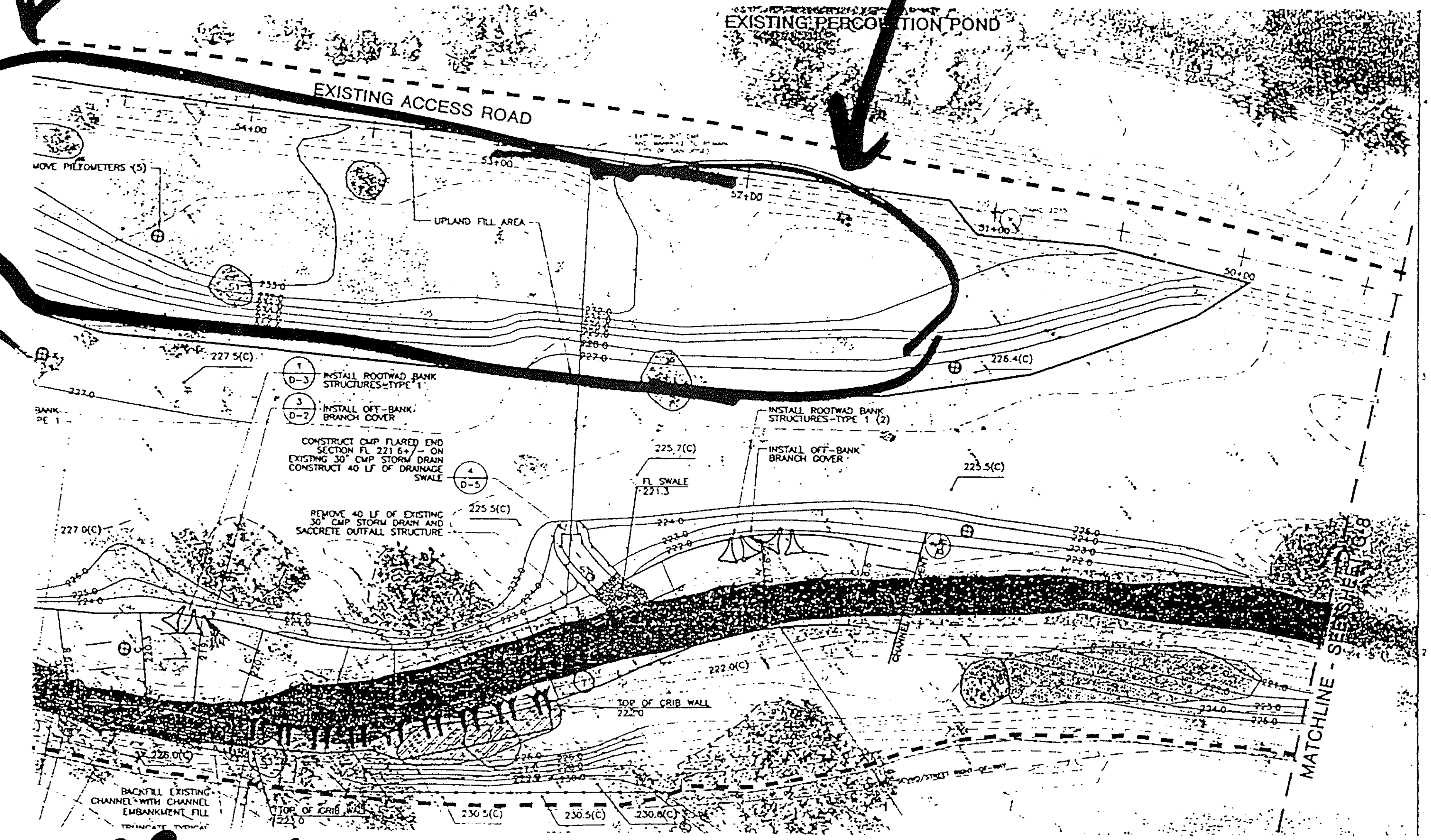
This stockpile was excavated from an area between Stations 51+00 and 54+00. This soil stockpile was divided into four sections. Hole #1 (northwest quadrant) was dug 1 ft beneath the pile surface at a location 50 ft in from the western end of the pile and 9 ft in from the northern side of the pile. Hole #2 (southwest quadrant) was dug 1 ft beneath the pile surface at a location 98 ft in from the western end of the pile and 10 ft in from the southern side of the pile. Hole #3 (southeast quadrant) was dug 1 ft beneath the pile surface at a location 10 ft in from the eastern end of the pile and 18 ft in from the southern side of the pile. Hole #4 (northeast quadrant) was dug 1 ft beneath the pile surface at a location 70 ft in from the eastern side of the pile and 5 ft in from the northern side of the pile.

R-3GW Equipment Rinsate Sample

A rinsate sample was made by pouring distilled water over the plastic scoop after it had been cleaned.

SSG-55+00

SSG-51+00


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
54+00
53+00
52+00
51+00
50+00
MOVE PIEZOMETERS (5)
UPLAND FILL AREA
227.5(C)
226.4(C)
225.7(C)
225.5(C)
227.0(C)
222.0(C)
226.0(C)
230.5(C)
230.8(C)
1 D-3 INSTALL ROOTWAD BANK STRUCTURES-TYPE 1
3 D-2 INSTALL OFF-BANK BRANCH COVER
CONSTRUCT CMP FLARED END SECTION FL 221.6+/- ON EXISTING 30" CMP STORM DRAIN CONSTRUCT 40 LF OF DRAINAGE SWALE
4 D-5
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK BRANCH COVER
FL SWALE 221.3
TOP OF CRIB WALL 222.0
BACKFILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
CHANNEL
MATCHLINE - SEE SHEET C-8

off Haul As none Hazardous soil

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16 October, 2001

Mark Abu-Tair
Forma Corporation
1285 Montecito Ave.
Mountain View, CA 94073

RE: -
Sequoia Report: MKJ0168

Enclosed are the results of analyses for samples received by the laboratory on 10/09/01 12:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

1

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Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
10/16/01 11:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSG-1377 A	MKJ0198-01	Soil	10/09/01 10:30	10/09/01 12:25
SSG-1377 B	MKJ0198-02	Soil	10/09/01 10:40	10/09/01 12:25
SSG-1270A	MKJ0198-03	Soil	10/09/01 11:00	10/09/01 12:25
SSG-1270B	MKJ0198-04	Soil	10/09/01 11:10	10/09/01 12:25
RS 1	MKJ0198-05	Water	10/09/01 10:45	10/09/01 12:25

Sequoia Analytical - Morgan Hill

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Wayne Stevenson, Client Services Manager

Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
10/16/01 11:35

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1377 A (MKJ0198-01) Soil Sampled: 10/09/01 10:30 Received: 10/09/01 12:25									
Mercury	56	0.48	mg/kg	120	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	18	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1377 B (MKJ0198-02) Soil Sampled: 10/09/01 10:40 Received: 10/09/01 12:25									
Mercury	20	0.24	mg/kg	60	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	20	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1270A (MKJ0198-03) Soil Sampled: 10/09/01 11:00 Received: 10/09/01 12:25									
Mercury	78	0.48	mg/kg	120	1J10016	10/10/01	10/10/01	EPA 7471A	
Lead	32	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
SSG-1270B (MKJ0198-04) Soil Sampled: 10/09/01 11:10 Received: 10/09/01 12:25									
Mercury	3.9	0.24	mg/kg	60	1J10015	10/10/01	10/10/01	EPA 7471A	
Lead	60	5.0	"	1	1J09027	10/09/01	10/10/01	EPA 6010A	
RS 1 (MKJ0198-05) Water Sampled: 10/09/01 10:45 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J10017	10/10/01	10/11/01	EPA 7470A	
Lead	ND	0.10	"	"	1J09029	10/09/01	10/10/01	EPA 6010A	

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Fermi Corporation
1265 Montecito Ave
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tair

Reported:
10/16/01 11:35

STLC CAM Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSG-1377 A (MKJ0198-01) Soil Sampled: 10/09/01 10:30 Received: 10/09/01 12:25									
Mercury	0.00032	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.54	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1377 B (MKJ0198-02) Soil Sampled: 10/09/01 10:40 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.25	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1270A (MKJ0198-03) Soil Sampled: 10/09/01 11:00 Received: 10/09/01 12:25									
Mercury	0.00031	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.42	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
SSG-1270B (MKJ0198-04) Soil Sampled: 10/09/01 11:10 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15032	10/15/01	10/15/01	EPA 7470A	
Lead	0.80	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	
RS 1 (MKJ0198-05) Water Sampled: 10/09/01 10:45 Received: 10/09/01 12:25									
Mercury	ND	0.00020	mg/l	1	1J15031	10/15/01	10/15/01	EPA 7470A	
Lead	ND	0.20	"	"	1J12021	10/12/01	10/12/01	EPA 6010A	

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Ferma Corporation
1265 Montecito Ave.
Mountain View CA, 94073

Project: -
Project Number: Guadalupe Creek
Project Manager: Mark Abu-Tuir

Reported:
10/16/01 11:35

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J09027 - EPA 3050B										
Blank (1J09027-BLK1)				Prepared & Analyzed: 10/09/01						
Lead	ND	5.0	mg/kg							
LCS (1J09027-BS1)				Prepared & Analyzed: 10/09/01						
Lead	53.4	5.0	mg/kg	50.0		107	80-120			
Matrix Spike (1J09027-MS1)		Source: MKJ0110-01		Prepared & Analyzed: 10/09/01						
Lead	49.4	5.0	mg/kg	50.0	ND	89.4	80-120			
Matrix Spike Dup (1J09027-MSD1)		Source: MKJ0110-01		Prepared & Analyzed: 10/09/01						
Lead	51.7	5.0	mg/kg	50.0	ND	93.0	80-120	3.58	20	
Batch 1J10016 - EPA 7471A										
Blank (1J10016-BLK1)				Prepared & Analyzed: 10/10/01						
Mercury	ND	0.0040	mg/kg							
LCS (1J10016-BS1)				Prepared & Analyzed: 10/10/01						
Mercury	0.645	0.0040	mg/kg	0.667		96.7	80-120			
Matrix Spike (1J10016-MS1)		Source: MKJ0060-08		Prepared & Analyzed: 10/10/01						
Mercury	0.632	0.0040	mg/kg	0.657	0.035	89.5	75-125			
Matrix Spike Dup (1J10016-MSD1)		Source: MKJ0060-08		Prepared & Analyzed: 10/10/01						
Mercury	0.645	0.0040	mg/kg	0.667	0.035	91.5	75-125	2.04	20	
Batch 1J10017 - EPA 7470A										
Blank (1J10017-BLK1)				Prepared: 10/10/01 Analyzed: 10/11/01						
Mercury	ND	0.00020	mg/l							

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Perma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: - Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	Reported: 10/16/01 11:35

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J10017 - EPA 7470A										
LCS (1J10017-BS1)				Prepared: 10/10/01	Analyzed: 10/11/01					
Mercury	0.00726	0.00020	mg/l	0.00800		90.7	80-120			
Matrix Spike (1J10017-MS1)		Source: MKJ0198-05		Prepared: 10/10/01	Analyzed: 10/11/01					
Mercury	0.00714	0.00020	mg/l	0.00800	ND	88.6	75-125			
Matrix Spike Dup (1J10017-MSD1)		Source: MKJ0198-05		Prepared: 10/10/01	Analyzed: 10/11/01					
Mercury	0.00718	0.00020	mg/l	0.00800	ND	89.1	75-125	0.559	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ferma Corporation	Project: -	
1265 Montecito Ave.	Project Number: Guadalupe Creek	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	10/16/01 11:35

STLC CAM Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J12021 - Title 22-STLC										
Blank (1J12021-BLK1)				Prepared & Analyzed: 10/12/01						
Lead	ND	0.20	mg/l							
Blank (1J12021-BLK2)				Prepared & Analyzed: 10/12/01						
Lead	ND	0.20	mg/l							
LCS (1J12021-BS1)				Prepared & Analyzed: 10/12/01						
Lead	1.99	0.20	mg/l	2.00		99.5	80-120			
Matrix Spike (1J12021-MS1)		Source: MKJ0198-02		Prepared & Analyzed: 10/12/01						
Lead	2.18	0.20	mg/l	2.00	0.25	96.5	80-120			
Matrix Spike Dup (1J12021-MSD1)		Source: MKJ0198-02		Prepared & Analyzed: 10/12/01						
Lead	2.18	0.20	mg/l	2.00	0.25	96.5	80-120	0.00	20	
Batch 1J15031 - EPA 7470A										
Blank (1J15031-BLK1)				Prepared & Analyzed: 10/15/01						
Mercury	ND	0.00020	mg/l							
LCS (1J15031-BS1)				Prepared & Analyzed: 10/15/01						
Mercury	0.0345	0.00020	mg/l	0.0400		86.2	80-120			
Matrix Spike (1J15031-MS1)		Source: MKJ0198-05		Prepared & Analyzed: 10/15/01						
Mercury	0.0339	0.00020	mg/l	0.0400	ND	84.8	75-125			
Matrix Spike Dup (1J15031-MSD1)		Source: MKJ0198-05		Prepared & Analyzed: 10/15/01						
Mercury	0.0341	0.00020	mg/l	0.0400	ND	85.2	75-125	0.588	20	

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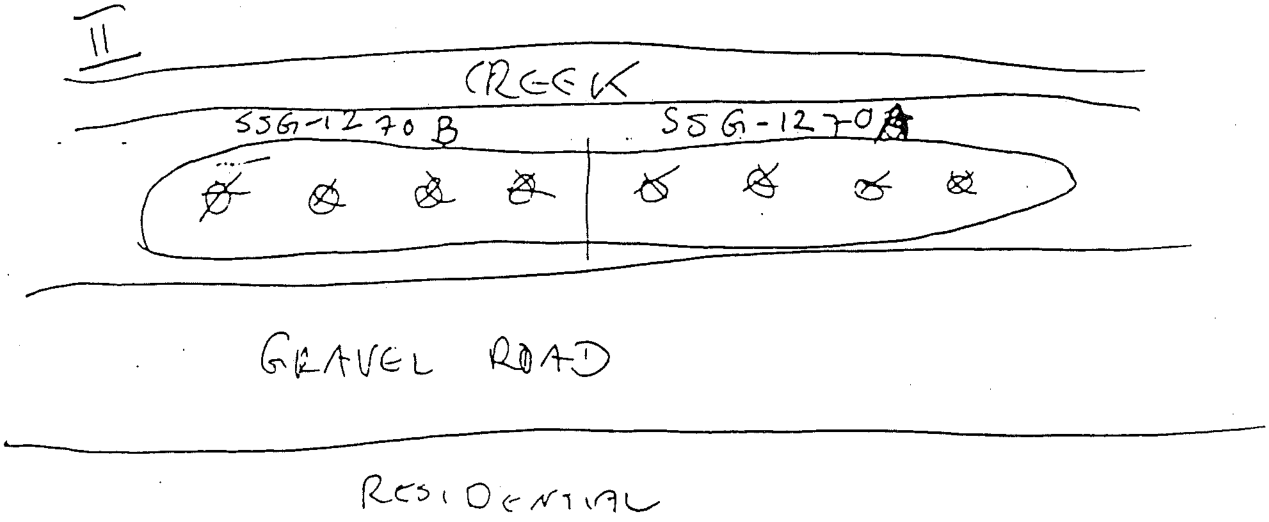
Ferma Corporation 1265 Montecito Ave. Mountain View CA, 94073	Project: . Project Number: Guadalupe Creek Project Manager: Mark Abu-Tair	Reported: 10/16/01 11:35

STLC CAM Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J15032 - EPA 7470A										
Blank (1J15032-BLK1)				Prepared & Analyzed: 10/15/01						
Mercury	ND	0.00020	mg/l							
LCS (1J15032-BS1)				Prepared & Analyzed: 10/15/01						
Mercury	0.00691	0.00020	mg/l	0.00800		86.4	80-120			
Matrix Spike (1J15032-MS1)		Source: MKJ0198-01		Prepared & Analyzed: 10/15/01						
Mercury	0.00678	0.00020	mg/l	0.00800	0.00032	80.8	75-125			
Matrix Spike Dup (1J15032-MSD1)		Source: MKJ0198-01		Prepared & Analyzed: 10/15/01						
Mercury	0.00681	0.00020	mg/l	0.00800	0.00032	81.1	75-125	0.442	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



RINSE SAMPLE : RS I

10/09/01

Ⓘ SS G-13 77

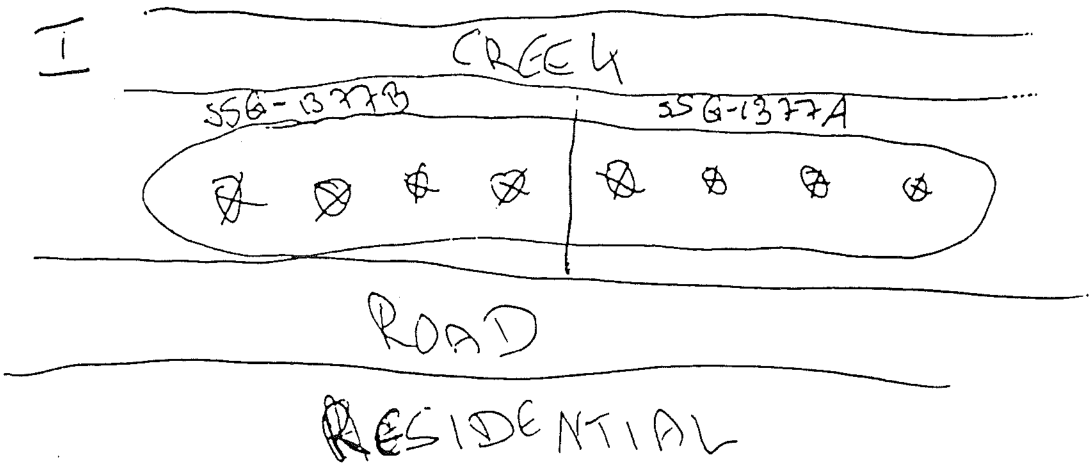
Length: 74-79 (Station #)

Ⓘⓘ SS G-12 70

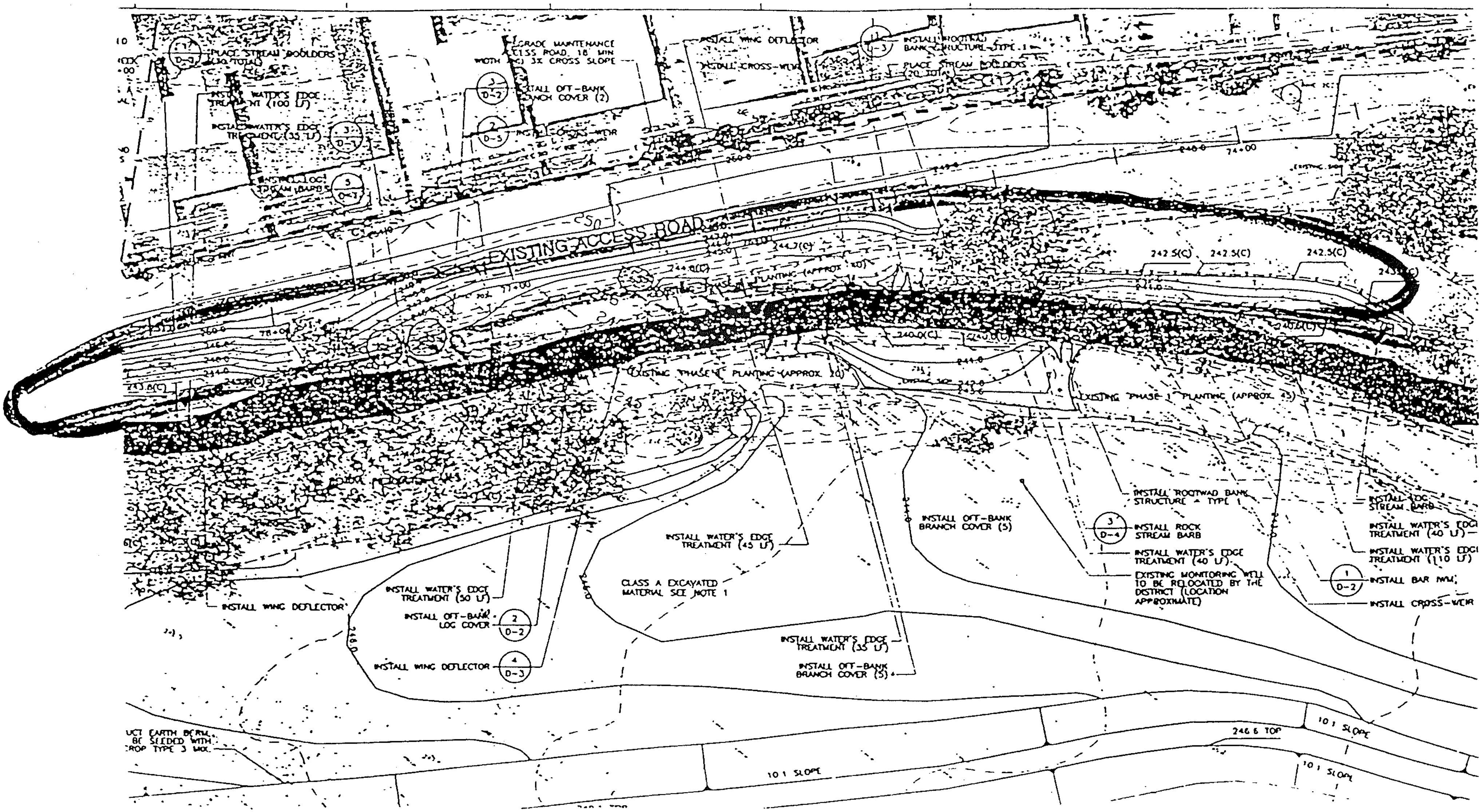
Length: 67-71.5

+ STLC RUSH 24h

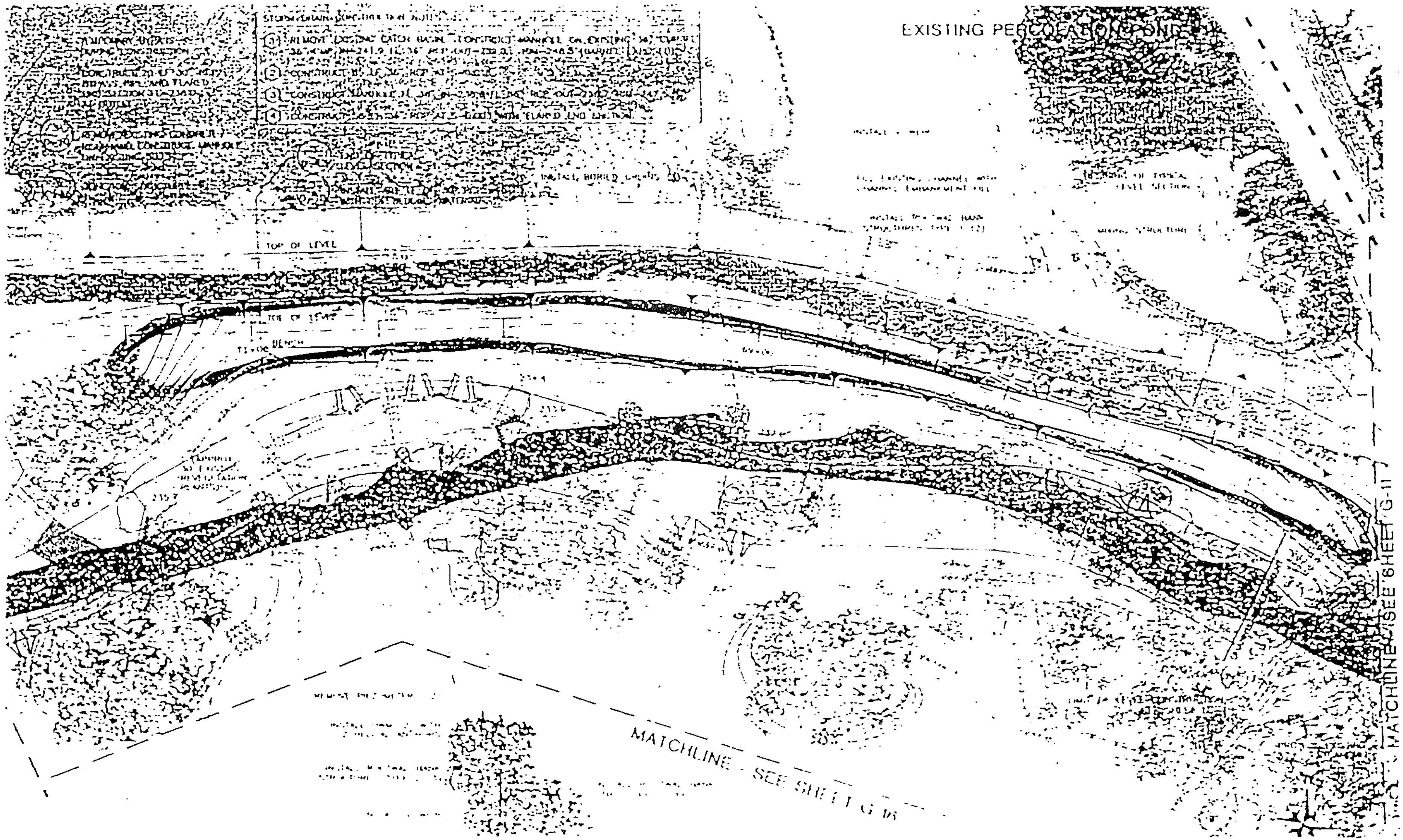
I



SSG-1377A SSG-1377 B



PLACE STREAM BOULDERS (10 TOTAL)
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL LOG STREAM BARBS
GRADE MAINTENANCE ACCESS ROAD. 18' MIN WIDTH 3% CROSS SLOPE
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL CROSS-WEIR
INSTALL WING DEFLECTOR
INSTALL CROSS-WEIR
INSTALL ROOTWAD BANK STRUCTURE TYPE 1
PLACE STREAM BOULDERS (20 TOTAL)
D-2
D-3
D-5
D-7
D-4
EXISTING ACCESS ROAD
74+00
77+00
78+00
242.5(C)
242.5(C)
242.5(C)
240.0(C)
244.0(C)
244.7(C)
243.8(C)
PLANTING (APPROX 10)
EXISTING PHASE 1 PLANTING (APPROX 20)
EXISTING PHASE 1 PLANTING (APPROX 45)
INSTALL WATER'S EDGE TREATMENT (45 LF)
CLASS A EXCAVATED MATERIAL SEE NOTE 1
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK LOG COVER
INSTALL WING DEFLECTOR
INSTALL WING DEFLECTOR
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
INSTALL WATER'S EDGE TREATMENT (110 LF)
INSTALL BAR WM
INSTALL CROSS-WEIR
CT EARTH BERM BE SEEDED WITH CROP TYPE 3 MIX
10:1 SLOPE
10:1 SLOPE
10:1 SLOPE
246.6 TOP
248.0
246.0
244.0


STORM DRAIN CONSTRUCTION NOTES
1 REMOVE EXISTING CATCH BASIN, CONSTRUCT MANHOLE ON EXISTING
2 CONSTRUCT
3 CONSTRUCT
4 CONSTRUCT WITH FLARED END SECTION
INSTALL BURIED CABLES
TOP OF LEVEE
TOP OF LEVEE
TOE OF BENCH
EXISTING PERCOLATION POND
MATCHLINE - SEE SHEET G-11
MATCHLINE - SEE SHEET G-16

Ferma Corporation	Project: -	
1265 Montecito Ave.	Project Number: Guadalupe Creek	Reported:
Mountain View CA, 94073	Project Manager: Mark Abu-Tair	10/16/01 11:35

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

TETRA TECH, INC.

TETRA TECH, INC.
180 Howard Street, Suite 250
San Francisco, CA 94105 1661

CHAIN OF CUSTODY

TT MKI0198

Client Fema Corporation	Project Name Guadalupe Creek	
Address 1265 Montecito Ave, Suite 200, Mountain View, CA 94043	Project Number TC 11623-01	Destination Sequoia Laboratory
Phone (650) 245-1523	Project Manager - Karen Summers	Address 1551 Industrial Road
Contact Mark Abu-Tair	Field Contact Tatjana Gruner Phone (415) 974-1221	Tel (650) 232-9600
Sampler (print) Tatjana Gruner Sampler (sign)	Sample date(s) 10/09/2001	Contact Paul
		Turn Around Time 24 hour rush

ANALYTICAL PROCEDURES

Sample Description	Date	Time	Depth (feet)	*Media	# of Containers	Pres.	Field Filtered (y/n)	Tot. Mercury EPA 7471A Cold Vapor	Tot. Lead (6000/6000 ICP)	STLC Hg + Pb	Comments	Lab ID #
SSG-1377 A	10/09	10:30	1	S	1	n	N	X	X	X		01
SSG-1377 B	10/09	10:40	1	S	1	N	N	X	X	X		02
SSG-1270 A	10/09	11:00	1	S	1	N	N	X	X	X		03
SSG-1270 B	10/09	11:10	1	S	1	N	N	X	X	X		04
RS I	10/09	11:45	–	RW	1	N	N	X	X	X		05

Relinquished by	Date/Time 10/09	Received by	Date/Time 10/9/01 1225	Condition Received: Cold Sealed Intact
Relinquished by will	Date/Time 10/9 1830	Received By WHS	Date/Time 10/9 1610	Condition Received: Cold Sealed Intact
Shipping Method	No. of Packages 10/9/01 [illegible] 1830		Shipping Number	

REMARKS

*MEDIA CODE

Soil	S	Concrete	C
Wipe	F	Surface Water	SW
Wood	WO	Ground Water	GW
Sludge	SL	Compost	CO
Soil Gas	SG	RAINWATER	RS

Ferma Corporation
1265 Montecito Ave. Suit 200
Mountain View, CA 94043

Date: 10/17/01

To: SCVWD
5750 Almadan Expressway
San Jose, CA 95118

Attention: Mr. Ralph R. Blair, P.E.

Guadalupe Creek Restoration Project

Contract: C0478
Ferma Project No: 4330

Subject: Soil Test Results
On site soil use
Offsite Soil Disposal sites

Submittal no. 42-5

Specification Section:
20.01.04 page 20-9
20.01.06 page 20-12
20.01.07 page 20-13

Offsite Soil Disposal as Non-Hazardous Material
Potential disposal sites for Non-Hazardous excavated materials at Waste Management, Ultamont Landfill Livermore.

Offsite Soil Disposal as Hazardous Material
Potential disposal site for hazardous excavated materials at Kettleman Hills Landfill

Submittal includes:
-Soil Test Result Summary sheet and reuse/ disposal
-Disposal facility Acceptance Letters
-Sampling stockpile locations maps summary
-Detail soil sampling test results from Sequoia Analytical Laboratory
-Tetra Tech Sampling Reports (if needed)

Mark Abu-Tair

Ferma Corporation Guadalupe Creek Restoration Project 10/15 Job No 4330

Excavation From	Station		Side	*Stockpile	at Station		Use at Station			Sample ID				Lab ID		Sampling Date	TOTAL		Remarks		
																	Hg	Lead			
Flood Plane Excavation	0+00	11+00	N							SS	G	-	2.8	MKG0553-	2	7/30/2001	19	7.6			
							Upland Fill Area	5+50	11+00	SS	G	-	E1-E5	MKH0233	1	8/13/2001	2.7	8.1			
Bank Excavation	11+00	15+75	N	Upland Fill Area	5+50	11+00				SS	G	-	08+00	MKI0330-	4	9/18/2001	11	14			
										SS	G	-	18.5	MKG0377-	6	7/19/2001	6.8	11			
Channel Excavation	19+50	24+00								SS	G	-	4.22	MKG0377-	3	7/19/2001	3.9	ND	In Place Test/ Channel	19+50-	24+00
Channel Excavation	27+50	29+00		Upland Fill Area	17+00	23+50	Upland Fill Area	17+00	23+50	SS	G	-	5.27	MKG0377-	2	7/19/2001	9.5	ND	In Place Test/ Channel	27+50-	29+00
Bank Excavation	26+00	35+75	N							SS	G	-	5(29.1-150)	MKH0143-	1	8/8/2001	0.28	5.8			
Flood Plain Excavation	38+00	41+00	S							SS	G	-	25+00	MKI0330	3	9/18/2001	13	13			
Flood Plain Excavation	43+00	44+00	S																		
Flood Plain Excavation	45+00	45+50	S							SS	G	-	9.53	MKG0377-	1	7/19/2001	1.7	17			
Flood Plain Excavation	44+50	46+50	N							SS	G	-	10 58	W108306	3	8/16/2001	3.2	9.4			
Flood Plain Excavation	47+50	50+50	S																		
Channel Excavation	51+00	54+50		Upland Fill Area	50+00	56+50	Upland Fill Area	50+00	56+50	SS	G	-	68+50	MKI0330	2	9/18/2001	3.8	12			
and Bank Excavation	51+00	54+50	N																		
and Bank Excavation	51+00	54+50	S																		
Channel Excavation	56+50	57+50																			
Flood Plain Excavation	55+50	64+00	N																		
Flood Plain Excavation Existing Levee	55+50	69+00	N	stock pile ?? quantities			Off Haul to Waste Management Ultamont Land Fill			SS	G	-	55+00	MKI0523	1	9/26/2001	6	11	STLC: .0013 Hg		
										SS	G	-	51+00	MKI0523	2	9/26/2001	11	12	STLC: .00094 Hg		
										SS	G	-	1270B	MKJ0198	4	10/9/2001	3.9	60	STLC: ND		
										SS	G	-	50+50	MKI0330	1	9/18/2001	**50**	8.1	TCLP: ND		
										SS	G	-	50+50-B	MKI0417	1	9/21/2001	7.3	8.1	Confirm test MKI0330-1		
Channel Excavation	67+00	72+50		Flood Plain Area	50+00	56+50	Off Haul to Waste Management Kettleman Land Fill			SS	G	-	50+50-C	MKI0417	2	9/21/2001	**61**	8.1	Confirm test MKI0330-1		
										SS	G	-	68+50-B	MKI0417	3	9/21/2001	**30**	8.1	Confirm test MKI0330-1		
										SS	G	-	1270B	MKJ0198	3	10/9/2001	**78**	32	Confirm test MKI0417-3		
Flood Plane Excavation	67+00	71+50	S	New Levee	69+00	71+00	New Levee	66+00	72+00	SS	G	-	12 72	W108306	1	8/16/2001	3.2	11			
										SS	G	-	12 68	W108306	2	8/16/2001	3.8	11			
										SS	G	-	68+50	MKI0330	2	9/18/2001	3.8	12	Moved to uplanf fill area	50+00	56+50
Class A/ flood plain	73+00	83+00	S	Flood Plain Area	73+00	80+00	Top Soil	0+00	83+00	SS	G	-	13.72F	MKG0337	4	7/17/2001	1.7	ND	In Place Test/ Open Field		
										SS	G	-	13.72W	MKG0337	5	7/17/2001	1.1	11			
										SS	G	-	13.73	MKG0553	1	7/30/2001	3.6	12			
							Earth Berm	70+50	80+50	SS	G	-	13.8+/-100	MKG0553	3	7/30/2001	10	9			
Flood Plain Excavation	73+00	83+00	N	Flood Plain Area	73+00	83+00	Off Haul to Waste Management Kettleman Land Fill			SS	G	-	1377A	MKJ0198	1	10/9/2001	**56**	18			
										SS	G	-	1377B	MKJ0198	1	10/9/2001	**20**	20			

SCVWD
☐ NO EXCEPTIONS NOTED
☑ APPROVED AS NOTED
☐ REVISE AND RESUBMIT
☐ REJECTED ☐ IN RECEIPT OF
☑ SEE ATTACHED COMMENTS
BY T. Ndah DATE 10/29/01

Santa Clara Valley Water District

T. Ndah

TRANSMITTAL FORM

FC 533 (12-15-97)

4330

Project Name: GUADALUPE CREEK RESTORATION PROJECT

Contract No.: C0478

TO BE COMPLETED BY CONTRACTOR

To: Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Attn: Ralph R. Blair

Date: 1-25-02

RECEIVED
JAN 29 2002
S.C.V.W.D.

TO BE COMPLETED BY DISTRICT

To:
FERMA CORPORATION
1265 Montecito Ave., Suite 200
Mountain View, CA 94043

Attn:
Mr. Mark Abu-Tair

Date Returned: 2/13/02

Submittal No.: ~~42-6~~ 42.5-1.0

Item:

Spec. Sec. Page No.: 20.01.04 20-9
20.01.06, 07 20-13, 14

Supplier/Subcontractor:

☐ Original Submittal ☐ 2nd ☐ 3rd ☐ 4th ☑

IDENT. NUMBER	DETAILED DESCRIPTION (PROVIDE ONE TRANSMITTAL FORM PER SUBMITTED ITEM)	COPIES SENT	No Exception Noted	Approved As Noted	Revise And Resubmit	Rejected	In Receipt Of	See Attached Comments
	Soil test results.	4		✓				
	Disposal sites	4		✓				
	on site reuse, Disposal***	4		✓				
	** Disposal facility acceptance letter	4		✓				

Complete either (a) or (b), following:

(a) The material or equipment contained in this submittal is intended to meet all the requirements specified or shown (no exceptions). ☑

(b) The material equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (list deviations, attach separate sheet if necessary). ☐

CONTRACTOR: For Ferma Corporation

Remarks: Mark Abu Tair

** See submittal No. 42.5-0

*** Approximate quantities (Estimated)

Corrections or comments made relative to submittals during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications. This submittal is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction, coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

SCVWD Tony Ndah
Design Division

Construction Division

* Please provide disposal acceptance letters.

Santa Clara Valley Water District

TRANSMITTAL FORM

FC 533 (12-15-97)

4330

Project Name: GUADALUPE CREEK RESTORATION PROJECT

Contract No.: C0478

TO BE COMPLETED BY CONTRACTOR

To: Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

RECEIVED
OCT 18 2001
S.C.V.W.D.

Attn: Ralph R. Blair

Date: 10-17-01

TO BE COMPLETED BY DISTRICT

To:
FERMA CORPORATION
1265 Montecito Ave., Suite 200
Mountain View, CA 94043

Attn:
Mr. Mark Abu-Tair

Date Returned: 10/21/01

Submittal No.: 42-5

Item:

Spec. Sec. Page No.: 20.01.04 — 20-9
20.01.06,07 — 20-13,14

Supplier/Subcontractor:

☑ Original Submittal ☐ 2nd ☐ 3rd ☐ 4th

			REVIEW ACTION					
IDENT. NUMBER	DETAILED DESCRIPTION (PROVIDE ONE TRANSMITTAL FORM PER SUBMITTED ITEM)	COPIES SENT	No Exception Noted	Approved As Noted	Revise And Resubmit	Rejected	In Receipt Of	See Attached Comments
1	Soil test results	9		✓				✓
2	Disposal sites	9		✓				✓
3	on site re use	9		✓				✓
4	Disposal facilities Acceptance letters	9		✓				✓

Complete either (a) or (b), following:

(a) The material or equipment contained in this submittal is intended to meet all the requirements specified or shown (no exceptions). ☑

(b) The material equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (list deviations, attach separate sheet if necessary). ☐

CONTRACTOR: For Ferma Corporation

Remarks:

Corrections or comments made relative to submittals during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications. This submittal is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction, coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

SCVWD
Design Division

Construction Division

SUBMITTAL COMMENTS
Construction Division

Project: Guadalupe Creek Restoration Project	
Contractor: FERMA Corporation	
Contract No. CO478	Submittal # 42.5 – 0

☐ No Exception Noted ☐ Revise & Resubmit ☐ In receipt of

☒ Approved as Noted ☐ Rejected

Comments:

FERMA provided a table documenting the sources of the excavated materials, stockpile locations and sample identifications. This table needs to include data associated with the quantities of each excavated item in cubic yards.

Document should also include the final acceptance letter from the landfill.

Project Engineer: Tony Ndah	Date: Monday, October 29, 2001

APPENDIX E

- Guadalupe Creek Restoration Project Construction Self Monitoring Plan Documentation

Santa Clara Valley Water District

MEMORANDUM

TO: Al Gurevich

FROM: Tony Ndah

SUBJECT: Guadalupe Creek Resotration Project - Self Monitoring Memorandum in Compoliance with the Project Specifications and Resource Agency Permits

DATE: November 5, 2001

This memorandum is submitted to you to document the adequate fulfillment of the Self Monitoring Requirements of Sections 15 (Pollution Control), 16 (Storm Water Pollution Prevention Plan), and 19 (Control of Water) of the Project Specifications, and compliance with California Regional Water Quality Control Board Self-Monitoring Program for Order No. 01-036.

On July 16, 2001, Ferma Corporation submitted their proposed plan for control of water through the project area. This plan was accepted by you on July 20, 2001. Because the District took the responsibility of diverting the creek water into the percolation ponds, Ferma Corporation's control of water throughout the site was restricted to the areas of the Project prone to groundwater seepage. The groundwater that seeped into the Project and diverted from the areas of construction were sampled and tested for turbidity, according to the requirements of Order No. 01-036; however, because of the extensive fish relocation process carried out by the District prior to construction, the need for obtaining measurements of dissolved oxygen and pH were obliviated.. Measurements for the dissolved oxygen content and pH reading of the diverted flow from the creek were not measured by the contractor as part of this operation since the District's Maintenance Division conducts periodic measurements of the pH and dissolved oxygen content of the percolation pond water, and a bulk of the Guadalupe Creek flow was diverted into these percolation ponds prior to the start of construction. Please reference the attached letter from Ferma to the District documenting Ferma's control of water plan, and the attached turbidity monitoring logs for diverted groundwater on the Project.

Also, attached to this memorandum, is a copy of Field Memo No.11 from Ferma, containing daily monitoring logs for air and dust within the Project area. The air and dust readings includes RJ Lee Group, lab test for the analysis of the mercury content continued in the dust of the project area.

If you have any questions or need further information please let me know.

ORIGINAL DOCUMENT IN FILES

Assistant Engineer
Hydraulics/General Civil Engineering Unit

cc: F. Palafox, R. Parmintuan, T. Gross, PM File 301525

Enclosures

- Ferma Corporation Turbidity Monitoring Logs
- Field Memo No. 11 – Air and Dust Monitoring Logs
- Letter from Ferma to District dated July 16, 2001 regarding Ferma Cooperation's Proposed Plan for Control of Water

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

				Reading NTU			
Loaction	Stations	Date	Time	U/S	D/S	Difference	%
Trench	34+00	8/31/2001	11:30	34.3	36.8	2.5	7.29%
Trench	46+00	8/31/2001	11:15	1.78	1.82	0.04	2.25%
Trench	52+00	8/31/2001	10:42	1.88	2.03	0.15	7.98%

Remarks:

spector:

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
				U/S	D/S		
Diversion Trench	50+00-60+00	9-5-01	9:05	.95	1.02		
Diversion Trench	46+00	9-5-01	9:25	7.28	7.72		
Diversion Trench	34+00	9-5-01	9:43	2.45	2.49		
Diversion Trench	46+00	9-5-01	2:20	7.36	7.57		
Diversion Trench	50+00-60+00	9-5-01	2:35	.91	.99		
Diversion Trench	34+00	9-5-01	2:50	2.08	2.30		

Remarks:

Inspector: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
Diversion Trench	50+00 - 60+00			U/S	D/S		
Diversion Trench	50+00-60+00	9-6-01	11:00	1.33	1.54		
P "	34+00-	9-6-01	11:20	2.33	2.49		
"	46+00	9-6-01	11:40	2.14	2.18		

Remarks:

Inspector:

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
				U/S	D/S		
[illegible]							
Diversion Trench	34+00-40+00	9-7-01	10:00	38.3	39.2		
Diversion Trench	50+00-60+00	9-7-01	10:55	3.55	3.73		
Diversion Trench	43+00	9-7-01	11:10	10.2	11		
Diversion Trench	34+00-40+00	9-7-01	3:40	39.1	40.4		
Diversion Trench	43+00	9-7-01	3:55	10.9	11.07		
Diversion Trench	50+00-60+00	9-7-01	4:10	3.59	3.81		

Remarks:

Inspector: Casildo González

FERMA CORPORATION
Guadalupe Creek Restolartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
				U/S	D/S		
DIVERSION DAM/Trench	50+00-60+00	9-10-01	10:05	1.58	1.8		
DIVERSION DAM	46+00	9-10-01	10:20	10.9	11.92		
DIVERSION DAM AREA	32+00-35+00	9-10-01	10:40	16.7	17.4		
"	50+00-60+00	9-10-01	2:00	1.15	1.21		
"	46+00	9-10-01	2:15	10.2	10.9		
"	34+00	9-10-01	2:30	20.41	21.03		

Remarks: Readings vary, depending on work being done.

Inspector: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
DIVERSION DAM	50+00-60+00	9-11-01	9:30	.85 U/S	.89 D/S		
DIVERSION DAM	43+00-48+00	9-11-01	9:45	11.5	12.31		
	34+00-30+00	9-11 01	9:58	15.05	16		
DIVERSION DAM	50+00-60+00	9-11-01	3:00	.91	.98		
DIVERSION DAM	43+00-48+00	9-11-01	3:20	12.21	12.74		
	34+00-30+00	9-11-01	3:35	15.93	16.08		

Remarks:

Inspector:

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
DIVERSION DAM	50+00-60+00	9-17-01	10:30	6.29 U/S	6.37 D/S		
	45+00-39+00	9-17-01	10:50	20.08	21.02		
	34+00-30+00	9-17-01	11:05	21.16	21.2		
	50+00-60+00	9-17-01	2:30	6.3	6.42		
	45+00-39+00	9-17-01	2:50	20.42	21.11		
	34+00-30+00	9-17-01	3:05	21.23	21.3		

Remarks: Readings vary upon work being done in the certain stations.

Inspector: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
DIVERSION DAM	60+00-50+00	9-18-01	9:35	10.6 U/S	11.03 D/S		
DIVERSION [illegible]	45+00	9-18-01	10:00	15.1	15.32		
	34+00	9-18-01	10:20	15.6	15.69		
	60+00-50+00	9-18-01	2:00	11.2	11.82		
	45+00	9-18-01	2:15	15.75	16.1		
	34+00	9-18-01	2:35	16.5	16.4		

Remarks:

Inspector:

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU		Difference	%
	60+00-50+00	9-21-01	10:00	5.21 U/S	5.52 D/S		
	47+00-40+00	9-21-01	10:15	9.02	9.8		
	34+00	9-21-01	10:35	10.01	10.1		

Remarks:

Inspector: Casildo Gozalz

FERMA CORPORATION
Guadalupe Creek Restotartion Project

TURBIDITY MONITORING LOG

Loaction	Stations	Date	Time	Reading NTU
Creek (Dry)	79+00	10/19/2001	10:30 AM	11.50
Creek (Dry)	75+50	10/19/2001	10:35 AM	13.50
Creek (Dry)	72+50	10/19/2001	10:40 AM	29.00
Creek (Dry)	23+00	10/22/2001	9:35 AM	9.50
Creek (Dry)	22+00	10/22/2001	9:40 AM	8.50
Creek (Dry)	21+00	10/22/2001	9:45 AM	9.00
Creek (Dry)	20+50	10/23/2001	9:05 AM	6.50
Creek (Dry)	20+00	10/23/2001	9:10 AM	5.00
Creek (Dry)	19+00	10/23/2001	9:15 AM	7.50
Creek (Dry)	18+00	10/23/2001	1:25 PM	3.00
Creek (Dry)	17+00	10/23/2001	1:30 PM	4.00
Creek (Dry)	16+00	10/23/2001	1:35 PM	3.50
Creek (Dry)	15+00	10/24/2001	8:25 AM	8.50
Creek (Dry)	13+50	10/24/2001	2:30 PM	4.50
Creek (Dry)	13+00	10/24/2001	2:35 PM	3.50
Creek (Dry)	12+50	10/25/2001	8:25 AM	2.50
Creek (Dry)	11+50	10/26/2001	2:45 PM	3.00
Creek (Dry)	6+50	10/29/2001	8:25 AM	2.50
Creek (Dry)	0+75	10/29/2001	2:45 PM	4.00

Remarks:

Inspector:

Ferma Corporation
1265 Montecito Ave, Suite 200
Mountain View, CA 95043

SCVWD
Attention: Mr. Ralph R Blair, P.E.
5750 Almadan Expressway
San Jose, CA 95118

SCVWD
☑ NO EXCEPTION NOTED
☐ APPROVED AS NOTED
☐ REVISE AND RESUBMIT
☐ REJECT ☐ IN RECEIPT OF
☐ SEE ATTACHED COMMENTS
BY Ac DATE 7/20

Date: 7/16/01

Project: Guadalupe Creek Restoration
Contract No: C0478
Project No. [Ferma]: 4330

Subject: Proposed Plan for Control of Water
Specification Section: 19.01 page 19-3.
Plan Drawing Sheets G-1 through G-14.

Ferma Corporation will comply with California Storm Water Best Management Practice Handbooks and Construction Storm Water Pollution Control Compliance Prepared by SCVWD. The planned procedures are described below:

While Water Diverted to Percolation Pond # 1

A desilting pond will be constructed upstream of the bridge located at Almaden Expressway. This pond will be constructed using silt fences, filter fabric, hay bales, plastic sheeting, and a streambed gravel dam. See attached sketches. This pond will be used as a contingency plan to control unexpected discharges to the channel area [i.e., storm water, storm drain discharges, etc.]. Water from the downstream reaches of the creek channel will be pumped to this desilting pond, if necessary. Additional desilting ponds will be built in two areas where groundwater seepage may occur, as listed below:

Station 34+00 for water seepage between station 35+00–45+00, see attached drawsing
Station 75+00 for water seepage between station 78+00–83+00, see attached drawsing

Water from the areas downstream of Meridian Bridge may be pumped to a bermed, flat area within a designated staging area and allowed to percolate or to a nearby desilting basin that may be in the creek channel or in the staging area. The District will be notified at least 48 hours in advance of dewatering to remove any fish that may be present in that section of the creek. Dewatering These silt basins will be constructed of silt fences, filter fabric, and hay bales. The number and location of desilting ponds are subject to change during construction. The intent of the dewatering operations is to have dry conditions during the construction operations and prevent release of sediment to the creek in accordance with the SWPPP. Any silt remaining in the ponds or the staging area will be moved to the soil stockpiles and properly and legally disposed in agreement with the Soil Management Plan.

Water from the desilting ponds will be allowed to settle and will be tested, prior to allowing discharge through the filter fabric to Guadalupe Creek. The water in the desilting ponds may be used for construction, examples: for dust control or for compacting of soil. If water is released to the creek, the tests specified in the Storm Water Pollution Prevention Plan (SWPPP) will be conducted prior to discharge of the decant or runoff water.

Channel work [i.e., IWM, channel excavation, etc] will proceed from downstream, starting at the Almaden Expressway Bridge, then continue upstream. This reach of the creek is dry from the initial dewatering operations. Work will be conducted only in daylight.

Groundwater Seepage

Ground water is likely to be encountered between stations 40+00 – 44+00, and 80+00 – 83+00. Water will be controlled prior to excavation in this area by pumping the water into a bermed, flat area within a designated staging area or to a desilting pond. Water will be pumped into a down-stream desilting pond after the channel work and instream structures are completed.
The proposed locations of the desilting ponds are at the upland fill area between stations 5+50 – 11+00, 17+00-23+50, 50+00-56+50, and 73+00-80+00 on the south side. Sediment will be removed from the creek prior to removal of the materials used for the filtering system and placed in the soil stockpile.

The proposed re-watering procedure for the creek after the completion of the channel work [IWM, rock, swales, and adjacent planting etc.] will be for the District to remove the diversion at Masson Dam and allow water to flow to the channel. Rewatering of the creek will not be allowed until completion and approval of all channel works by the Engineer.

Contingency plan for storm flow

Each end of the RCP Pipes will be plugged with inflated balloons. Stormwater from the creek channel will be pumped to the desilting ponds or to {standby} silt basins, if necessary. The dam at Almaden Expressway will be removed prior to heavy storms.

Please approve this proposal.

Mark Abu-Tair
Project: Guadalupe Creek Restoration
Contract No: C0478

Ferma Corporation
Project: Guadalupe Creek Restoration Project
7/10/2001

Water Control at RCP, Manholes, Joint and Mixing structure

Sheet G-12

Sequence of Work				**Description**	
While Water diverted to percolation ponds					
1	Construct	491	L.F.	30" RCP between Mixing Structure and Junction Structure	Pump water from trench to silt basin
2	Construct	1		Mixing Structure at Station 67+40	
3	Construct	1		Junction Structures at Station 72+10	Location of Silt basin at the side of existng Levee
Coordinate with SCVWD to divert the water					
Divert water back to Guadalupe Creek					
4	Construct	58	L.F.	36" RCP between [new manhole on new 36" RCP] and Drainage Swale on Guadalupe Creek	
5	Construct	65	L.F.	36" RCP between [Manhole on existing 36"CMP] and [new manhole on new 36" RCP]	Pump water from trench to silt basin
6	Construct	1		New Manhole on Existing 30" RCP [Diversion Pipe from Mason Dam]	Plug Pipe prior of construction of Manhole [If Needed]
7	Construct	1		New Manhole on Existing 36" CMP	
8	Construct	1		New Manhole on new 36" RCP	
9	Construct	20	L.F.	30" RCP Bypass Pipe between Junction Structure & Pond # 1	Plug Pipe prior of construction of flare end [If Needed]

Construct Sedimentation/ Silt Basin Consist of Filter Fabric, Silt fence, Hay bales
Pump water from trenches use 3" pumps to the silt basin
If water released to Pond # 1, Check for Turbidity and report it.
Dispose Silt Basin Materials
Daylight work only
Comply with SWPPP [for this project] for control of sediment and oher pollutants
Sediment will be removed from the creek prior to to removal of filtering system
Contingency plan for storm flow

Plug each end of RCP Pipes with inflated baloons
Costruct {standby} silt basins to pump water to

Field Memo No 11

Ferma Corporation
1265 Montecito Ave. Suit 200
Mountain View, CA 94043

Date: 9/26/01

To: SCVWD
5750 Almadan Expressway
San Jose, CA 95118

Attention: Mr. Ralph R. Blair, P.E.

Guadalupe Creek Restoration Project

Contract: C0478
Ferma Project No: 4330

Subject: Air / Dust Monitoring

Specification Section: [Health and Safety Plan]

For you information, please See attached

1-Daily Monitoring Log. [For Dust]
2-RJ Lee Group, Lab Test Analysis for on site station [for Mercury]

Mark Abu-Tair

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 4 /25 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7-20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
	OFFICE	7.25	04	00	02	02	00	00	00	02	00	00	00	02	03	00	00
	56+50	10-20	02	04	00	08	00	00	04	00	00	00	00	00	00	00	00
Work	59+50	10-30	00	00	00	07	00	03	00	00	00	09	00	00	01	00	00
Clear & Grub	71+00	10.40	00	00	00	00	00	00	00	00	00	00	00	06	00	00	00
Excavation	8+00	1:00	00	00	00	00	00	00	00	00	01	00	01	08	00	00	00
	8+00	1-15	00	00	11	00	00	00	00	00	10	00	00	12	00	08	00
Equipment /	55+00	1-25	00	10	00	05	00	00	00	08	04	00	00	12	06	00	00
Scraper(s)	58+00	1.35	00	00	04	00	00	00	02	00	00	00	00	01	00	00	02
Excavator(s)	70+00	1 45	00	00	00	00	00	04	00	06	00	00	03	00	00	02	00
Grader(s)	55+50	2 30	00	00	02	00	00	01	00	00	03	00	00	00	00	00	00
Truck(s)	40+50	2 40	00	01	00	04	00	00	00	00	00	00	00	00	03	00	00

Remarks:

Inspector: Jose M Gaviño

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 /24 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICe	9:30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00
RAMBO TWA →	office "	9:35	.00	.01	.00	.00	.00	.90	.00	.09	.00	.00	.01	.90	.90	00	.00
	69+00	10:00	.05	.10	.00	.13	.08	.02	.22	.00	.0	.90	.11	.06	.04	.16	.26
Work	65+00	10:15	.00	.02	.21	.41	.00	.12	.24	.00	.03	.06	.00	.35	.10	.30	.00
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

spector: Casilato Gozalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 /21 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:30	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.90	.00	.00	.01	.00
BackGround	MIKE TWA office .17	7:35	.00	.01	.00	.00	.00	.99	.00	.00	.00	.00	.00	.00	.00	.00	.00
	69+00	8:00	.22	.17	.13	.08	.44	.22	.14	.00	.01	.00	1.72	3.56	.75	.36	.32
Work	64+00	8:30	.00	.00	.01	.08	.00	.06	.11	.00	.00	.00	.00	.00	.90	.00	.00
Clear & Grub	69+00	1:30	.13	.16	.04	.00	.00	.17	.26	.12	.06	.09	.00	1.14	.81	.18	.00
Excavation	64+00	1:40	.02	.06	.00	.00	.00	.00	.08	.17	.00	.00	.06	.00	.00	.02	.00
	69+00	2:50	.20	.24	.16	.19	.18	.18	.16	7.14	.93	.16	.08	.14	.06	.06	.00
Equipment																	
Scraper(s)																	
xcavator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 /20/01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	8:30	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TWA → .20	MIKE 70+00 OFFICE	8:35	.00	00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.91	.00	.00
	70+00	9:00	.13	.17	.05	.00	.12	.28	.33	165	.91	.81	.30	.00	.08	.16	.32
Work	69+00	11:00	.22	.54	.45	.16	.20	.00	.17	.17	.02	.27	.00	.02	.21	.37	.15
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
avator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

A+

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 19 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:10	.00	.09	.00	.00	.00	.09	.09	.00	.00	.09	.00	.91	.00	.00	.00
Rambo → TWA = .14	office	7:15	.00	.00	.00	.00	.00	.00	.00	.00	00	.00	.00	.00	.00	.00	.00
	70+00	9:00	.14	.21	.13	.05	.00	.00	.09	.18	.30	.29	.17	.17	.02	.14	.17
Work	65+00	9:45	.00	.09	.06	.08	.00	.01	.00	.11	.02	.06	.00	.01	.00	.01	.01
Clear & Grub	60+00	10:00	.22	.28	.76	.15	.05	.81	.94	.41	.38	.25	.15	.15	.01	.09	.18
Excavation	54+00	1:00	.12	.00	.03	.00	.09	.22									
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo Gonzalez

KMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 18 10

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:00	.00	.00	00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.01
Grade Setter →	office TWA .16	7:10	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.01	.00	.02	.00
	70+00	7:40	.00	.05	.14	.07	.26	.28	.46	.50	07	.72	.42	.36	.00	.05	.31
Work	71+00	7:50	.70	.53	.84	.68	.60	.80	.62	1.69	.56	.91	.49	.94	.61	.08	.33
Clear & Grub	50+00	11:30	.04	.08	.02	.00	.00	.10	.91	.16	.00	.00	.02	.07	.08	.08	.00
Excavation	52+00	11:50	.00	.13	.08	.00	.02	.09	.17	1.00	.88	.64	.00	.02	.01	.05	.05
	64+00	12:50	.23	.07	.29	.09	.03	.21	.37	.31	.56	.40	.50	.40	.15	.05	.27
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report. Prepared by:
Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 17 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:10	.00	.00	.00	.00	.00	.00	.00	.00	-00	.00	.00	.99	.00	.00	.00
MIKE → ALVES	office TWA .14	7:15	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
	71+00	8:30	.00	.00	.13	.08	.24	.32	.15	.04	.06	.00	.01	.39	.42	.00	.09
Work	52+00	9:00	.02	.00	.06	.16	.22	.28	.14	.11	.01	.00	.07	.30	.36	.31	.00
Clear & Grub	43+00	9:20	.79	1.21	.61	.00	.24	.00	.34	.48	.01	1.08	1.67	.21	.00	.00	.01
Excavation	54+00	9:35	.00	.20	.81	.34	.00	.00	.17	.17	1.23	1.52	.85	.35	.09	.28	.34
	49+00	1:55	.02	.06	-00	.01	.01	.09	.14	.09	.00	-00	.04	.01	.01	.90	.00
Equipment	52+00	2:05	.00	.11	.09	.01	.00	20	08	.04	.03	.01	.13	.00	.02	.02	.00
Scraper(s)	64+50	2:18	.20	.00	.16	.08	.03	.21	.29	.14	.05	1.78	.91	.89	.25	.00	.07
xcavator(s)	69+00	2:40	1.13	.73	1.82	3.01	.64	.42	1.72	1.69	.50	.52	.00	.00	.96	.42	1.05
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 9 /14 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	735	.00	.00	.00	.02	00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
	George	TWA	.11														
	62+00	9:00	.00	.08	.16	.01	.01	.00	.06	.25	.24	.38	.41	.17	.28	.16	.16
Work	71+00	1:30	1.50	1.72	.82	.53	.90	.45	.00	.00	.13	.14	.00	.00	.01	.01	.00
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 13 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:39	.01	.00	.00	.00	00	.00	.00	.00	.00	00	.00	.00	.01	.00	00
Work																	
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 /12 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	Office	7.00	.00	.01	.00	.00	.00	.00	.00	.00	00	.00	.00	.00	.02	.00	.00
	50+00	7:15	.00	.00	.24	.17	.28	.34	.37	00	.54	.45	.00	.25	.22	.	
	RAMBO	AVG.	T	W	A		.06										
Work																	
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
cavator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 11 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:20	.00	.00	.00	.00	.99	.00	.00	.09	.00	.00	.91	.00	.00	.00	.01
	54+00	7:40	.05	.13	.06	.28	.22	.00	.09	.91	.38	.77	.21	.11	.00	02	.04
	50+00	7:50	.01	.00	.03	.10	.10	.00	.14	.12	.00	.00	.03	.00	.00	.00	.00
Work	55+00	8:05	.18	.36	.00	.22	.29	.12	.24	.00	.02	.01	.00	1.33	.62	.17	.17
Clear & Grub	71+00	2:10	.63	.76	.40	.54	.30	.24	.00	.16	.18	.21	.20	.00	.05	.02	.01
Excavation	43+00	2:20	.05	.19	.00	.02	.62	1.74	.30	.00	.01	.26	.28	.10	.00	.42	.80
	Alex	AVG	T	W	A		.11										
Equipment																	
Scraper(s)																	
xcavator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 10 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.01	.00	.99	.09
Lucero → MINI RAM DUST MONO	TWA office .06	7:20	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.09	.00
	33+00	9:20	.59	113	.79	.07	.36	.25	.21	.47	.00	.08	.00	.36	.47	.19	.26
Work	34+00	9:25	.00	.11	.08	.05	.00	.30	.16	.03	.05	.14	.12	.06	.00	.18	.22
Clear & Grub	52+00	12:40	.00	.04	.06	.00	.07	.00	.01	.01	.14	.28	.00	.00	.13	.01	.06
Excavation	55+00	12:45	.63	.43	.00	.12	.26	.00	.05	.02	.74	.50	.42	.21	.26	.26	.11
	35+00	1:10	.00	.61	.59	4.0	1.00	.40	.36	.05	1.63	.13	.24	.01	4.01	.34	.00
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 7 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:15	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01
	52+00	9:00	.06	.00	.02	.04	.06	.10	.04	.06	.00	.08	.06	.02	.04	.04	.08
	51+50	9:10	.20	.24	.21	.24	.28	.26	.18	.28	.24	.24	.28	.20	.16	.00	.08
Work	56+00	9:20	.08	.10	.08	.10	.07	.00	.13	.28	.24	.32	.18	.20	.22	.26	.20
Clear & Grub	35+00	10:15	.68	.42	.34	.46	.38	.32	.50	.30	.00	.00	.28	.32	.38	.34	.15
Excavation	43+00	2:09	.00	.05	.06	.22	.17	.12	.00	.06	.25	.18	.21	.32	.36	.18	.09
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 16 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:00	.01	.00	.92	.00	.00	.00	.00	.00	.00	.00	00	.00	.00	.00	.00
	75+00	8:10	.00	.05	.90	.03	.07	.05	.15	.05	.03	.00	.00	.01	.03	.14	.21
Backround Goerge →	MINIRAM AEROSOL AVG 0.03	9:50	.02	.00	00	.92	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.90
Work	54+00	11:15	.90	22	.34	.13	.01	.16	.18	.12	.06	.00	.01	.42	.32	.09	.03
Clear & Grub	77+00	1:15	.21	.32	.20	.16	.00	.01	.00	.15	.14	.05	.05	.28	.36	.26	.25
Excavation																	
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 5 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:20	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
	43+00	7:45	.05	.02	.00	.14	.01	.22	.18	.09	.00	.00	.00	.17	.17	.00	.00
	34+00	7:56	.31	.26	.11	.01	.00	.08	.04	.12	.00	.29	.19	.00	.01	.00	.23
Work	77+00	8:10	.20	.43	.16	.16	.37	.15	.00	.05	.10	.08	.19	.30	.00	.72	.00
Clear & Grub	27+00	8:25	.23	.61	.42	.36	.15	.31	.00	.01	.01	.00	.72	.65	.34	.00	.09
Excavation	43+00	2:00	.00	.00	.05	.06	.00	.01	.00	.21	.00	.28	.32	.00	.14	.00	.00
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 9 / 4 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:55	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	20+00	8:05	.00	.05	.08	.19	.01	.00	.41	.01	.00	.25	.13	.00	.09	.11	.09
	27+00	8:10	.03	.21	.00	.00	.12	.00	.13	.00	.09	.05	.00	32	.16	.07	.01
Work	43+00	8:20	.00	.02	.00	.06	.00	.16	.00	.15	.07	.03	.00	.00	.00	.09	.00
Clear & Grub	52+00	8:30	.00	1.72	.00	.74	57	.26	.00	.03	.15	.00	.00	.12	.06	.24	.13
Excavation	24+00	2:30	.00	.07	.01	.00	.09	18	.09	.26	.24	.00	.08	.12	.16	.00	.01
	34+00	2:40	.05	.00	.01	.00	.14	.18	.12	.06	.01	.32	.00	.00	.01	.20	.18
Equipment	43+00	2:55	.00	.01	.00	.12	.16	.08	.40	.18	.00	.00	.13	.25	.16	.00	.00
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	
READ RD 150																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 31 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	8:50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
	office	8:55	.00	.01	.00	.00	00	.00	00	00	.00	.00	.00	.00	00	.00	.00
47+00-45+00 ~~27+00~~	~~Geo~~ Goerge	.06	AVG														
Work 27+00	MIKE	.40	AVG														
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /30/01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:40	.02	.00	.00	.01	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
	50+00-51+00	8:20	10.8	2.13	2.15	1.20	.43	.27	.25	.57	.23	.03	.01	.05	.19	.31	.25
	61+00	8:30	.07	.00	.03	.19	.11	.13	.27	.35	1.58	1.08	.71	.05	.07	.13	.29
Work	58+00	10:50	.00	.15	.00	.01	.05	.05	.03	.70	.94	.23	.47	.19	.45	.17	.77
Clear & Grub	46+90	11:15	.27	.09	.07	.07	.22	.45	.11	.09	.19	.28	.49	.37	.00	.00	.02
Excavation																	
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / ~~30~~ 29 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	11:00	.01	.01	.90	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
	50+90-53+00	1:15	.00	.24	.22	.36	.06	.16	.11	.38	.42	.32	.91	.00	.14	.24	.14
	47+90	1:20	.00	-.05	.04	.02	-.17	.06	.00	.28	.00	.33	1.77	.00	.36	.00	.17
Work	20+00-23+00	1:30	.12	.04	1.02	.72	.00	.16	.37	.00	.21	.67	.08	.04	.00	.30	.15
☐ Clear & Grub	19+00	1:45	.29	1.08	1.42	.00	.04	.00	.29	1.94	200	.58	.00	.46	.10	.37	1.83
☑ Excavation																	
Equipment																	
☐ Scraper(s)																	
☑ 3 cavator(s)																	
1 Grader(s)																	
☐ Truck(s)																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /27 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	8:00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.01
	19+00	2:50	.34	.32	.15	.36	.20	.07	.15	.15	.00	.42	.24	.28	.12	.00	.42
	35+00	3:00	.00	.32	.27	.40	.72	.60	.29	.00	.37	.00	.00	.01	.20	.10	.05
Work	52+00	3:10	.39	.22	.00	.02	.06	.42	.46	.38	.28	.16	.00	.02	.02	.00	.00
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
cavator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /24 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE-Area	9:00	.00	.02	.01	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00
	59+00 - 61+00	9:45	.00	.05	.26	.28	.36	.16	.08	.00	.42	.20	.24	.00	.01	.00	.00
	51+00-54+00	9.55	.12	.00	.01	.28	.32	.05	.05	.46	.88	.96	.52	.09	.17	.16	.16
Work	42+00- 45+00	10.05	.08	.10	.87	.43	.00	.04	.02	.04	.12	.39	.00	.39	.48	.02	.11
Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
Excavator(s)																	
rader(s)																	
ck(s)																	

Remarks:

Report Prepared by: Casildo González

Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /23 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	8:15	.00	.04	.00	.00	.09	.00	.09	.09	.00	.09	.02	.09	.90	.00	.09
	61+00	8:25	.00	.05	2.42	2.18	2.51	1.38	.41	.75	3.70	1.82	.49	.24	.95	.61	.02
	58+00	8:30	.00	.24	.26	.22	.08	.00	.02	.00	.04	.02	.00	1.56	.00	.38	.42
Work	33+00-35+00	9:05	.08	.00	.32	.36	.44	.22	.12	.00	.00	.00	.01	.04	.02	.26	.06
Clear & Grub	19+00	9:15	.19	.38	.19	.17	.46	.77	1.64	5.65	240	.96	.20	.00	.12	.11	.00
Excavation	81+00	3:10	.45	.37	.39	.41	.57	.47	.39	.39	.96	.73	1.04	.41	.49	2.29	.94
	33+00	3:40	.92	.98	.90	.05	.00	1.94	.78	.42	.21	.36	.08	.00	.00	.12	.26
Equipment	19+00	3:45	.86	.43	.15	1.62	.55	.20	34	.36	.16	.05	.02	.02	.00	.25	.03
Scraper(s)	47+00	3:55	.00	.00	.05	.15	.06	.01	.01	.00	.00	.21	.17	.17	.29	.49	.18
Excavator(s)																	
Grader(s)																	
T[illegible](s)																	
D6L																	

Remarks:

eport Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /22 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:25	.00	.00	.00	.00	.09	.00	.00	.00	.09	.00	.01	.00	.00	.00	.00
	5+00	7:40	.01	.07	.09	.13	.04	.00	.02	.25	.00	.09	.42	.00	.05	.21	.00
	7+00	7:50	.00	.08	.26	.28	.24	.00	.11	.14	.01	.01	.42	.46	.36	.09	.07
Work	17+00	7:58	.00	.02	.00	.26	.28	.12	.00	.00	.01	.36	.42	.21	.27	.00	.32
Clear & Grub	35+00	8:05	.00	.13	.15	.00	.86	.29	.11	.04	.27	.09	.04	.13	.11	.13	.02
Excavation	54+00	8:15	.23	.07	.11	.44	.00	.75	.59	4.04	.81	1.25	.54	.13	.17	.00	.40
Equipment																	
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	
D6H XL																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 22 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFice	9:45	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.01	.00	.00	.00
	5+00-7+00	10:05	.22	.54	.26	.54	.84	.48	.28	.08	.10	159	.16	.14	.58	1.09	.18
	33+00-35+00	10:20	.12	.16	.06	.00	.00	.08	.80	.14	.10	.85	.08	.12	.06	.06	.24
Work	38+00-40+00	10:35	.00	.37	.06	.27	.23	.46	.69	.00	.34	.72	.00	.00	.16	.18	.20
Clear & Grub	57+00-61+00	10:50	.08	.16	.14	.40	.04	.00	.00	.12	.04	.36	.28	.12	.14	1.43	.32
Excavation	80+00	11:10	.02	.00	.34	.01	.01	.64	.00	.00	.00	.45	.48	.93	.30	.24	.24
	55+00-58+00	1:45	.10	.83	7.48	2.67	.34	.26	.22	.52	.60	.69	.89	.34	.44	36	.42
Equipment	39+00	1:55	1.53	.08	.00	5.62	127	.12	.28	.18	.22	.00	.12	.12	.00	.05	.04
Scraper(s)	33+00-35+00	2:35	.07	.00	.25	.00	.08	.16	.16	.00	.42	.21	.23	.01	.01	.00	.10
xcavator(s)	5+00	2:55	.32	.00	.12	.05	.08	.00	.16	.18	.09	.03	1.08	.54	.00	.24	.26
Grader(s)																	
Truck(s)																	
973																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /20 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office-Area	8:15	.00	.01	.00	.09	.01	.01	.09	.00	.00	.00	.00	.00	.00	.00	.00
	58+00	8:30	.00	.01	.25	.42	.36	.13	.09	.03	.01	.01	.00	.32	.31	.76	.55
	75+00	8:40	.20	.14	.05	.18	1.77	1.02	.81	.00	.00	.11	.32	.36	.24	.08	.00
Work	29+00	10:30	1.05	.03	.00	.28	.61	.03	.01	.00	.38	.42	.17	.24	.32	.00	.69
Clear & Grub	27+00	2:35	.00	.03	.14	.12	.03	.05	.14	.55	.01	.07	.03	.05	.01	1.65	.01
Excavation	35+00	2:45	.09	.16	.12	.03	.00	.12	.30	.27	.00	.48	.46	.00	.15	.18	.00
Equipment																	
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 17 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:10	.00	.03	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	75+00	7:30	.86	.36	.00	.03	.11	.00	.00	.03	.00	.59	.51	.21	.24	.00	.84
	29+00	7:55	.22	4.96	6.25	.13	.00	.19	.00	1.69	1.02	.05	.00	.18	.39	.36	.00
Work	15+00	8:15	.00	.74	1.03	.09	.00	.32	.70	2.14	.00	.20	.24	.00	.03	.01	.00
✓ Clear & Grub	58+00	10:15	.00	.37	.05	.16	.00	.00	.79	.86	.49	.00	.09	.12	.24	.22	.35
✓ Excavation	29+00—27+00	12:50	.03	.38	.34	.00	.19	.19	.74	.08	.85	.82	.30	.10	.26	.05	.02
	75+00	1:15	.00	.00	.04	.01	.00	.28	.26	.64	.21	.19	.07	.00	.00	.00	.06
Equipment	58+00	2:30	.09	.27	.94	.72	.11	.00	.00	.06	.24	1.68	1.56	.70	.64	.00	.23
✓ Scraper(s)																	
✓ Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo González Peña

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /16 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	11:35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01	.00	.00	.00
	under elec. Tower 83+00	11:40	.04	.00	.00	.09	.02	.00	.00	.00	.05	.05	.00	.00	.00	.01	.00
	27+00	12:30	.00	.03	.16	.00	.01	.00	.13	.00	.00	.17	.08	.25	.00	.00	.02
Work	15+00	12:45	1.73	2.35	1.57	.27	3.98	7.63	.00	.13	.41	.00	.19	.80	.25	.84	2.54
Clear & Grub	under elec. Tower 83+00	1:00	.02	.00	15.1	10.0	.13	.00	.05	.80	153	.19	.00	.00	.04	.84	1.33
Excavation	7+00 - 9+00	2:15	.00	.03	.00	.00	.08	.25	.00	.05	.06	.00	.00	.00	.00	.90	.00
	14+00 - 15+00	2:25	.00	.00	.77	.18	1.92	1.06	.09	.00	.38	.00	.01	.00	.27	.22	.62
Equipment	27+00	2:50	.34	.48	29	.26	.44	.24	.21	.19	.42	3.50	14.5	.70	386	14.0	.68
Scraper(s)	15+00	~~2:50~~ 3:00	.68	.28	.34	1.13	1.03	.32	.36	.48	.38	.36	.32	.19	.17	.08	.24
Excavator(s)																	
Grader(s)																	
Truck(s)																	
Sheeps Foot compator																	
Blade																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 15 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICe Area	8:30	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
	7+00	8:35	.00	.05	.17	.17	.03	.08	.00	.00	.31	.02	.00	.24	.00	.00	.00
	15+00	8:45	.00	.02	.00	.00	.01	.00	.20	.00	.09	.05	.00	.00	.11	.00	.04
Work	73+00	11:35	.32	.40	.14	.01	.75	.05	.01	.48	.00	.00	.00	.19	.07	.63	.12
Clear & Grub	27+00	11:40	.00	.00	.06	.21	.13	.13	.03	.02	.38	.00	.00	.01	.44	.49	.08
Excavation	69+00	12:48	.00	.02	.05	.00	.00	.10	.00	2.28	1.67	.25	.00	.00	.14	.01	.06
	7+00	2:00	.07	.03	.16	.39	.22	.25	.00	.00	.34	.48	.03	.03	.00	.01	.00
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 8 / 14 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office Area	7:55	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.01	.09	.00
	69+00-72+00	8:05	.00	.01	.03	.00	.00	.00	.00	.01	.08	.11	.00	.00	.02	.02	.00
	29+00	10:15	.03	.04	.00	.00	.01	.29	.40	.05	.00	.01	.17	.17	.00	.00	.00
Work	27+00	10:20	.00	.00	.13	.89	.87	.99	.00	.01	.00	.18	.02	.06	.00	.00	.01
Clear & Grub	69+00	2:00	.11	.15	.01	.00	.41	.23	.16	.14	.07	.00	.00	.01	.49	.62	.38
Excavation																	
Equipment																	
Scraper(s)																	
xcavator(s)																	
rader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo

Face
1'6"
10 ft

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 /13 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:45	.00	.00	.00	.00	.90	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	69+00	7:55	.00	.00	.05	.22	.27	.12	.01	.38	.16	.63	.15	.15	.08	.20	.19
	27+00	8:10	.09	.58	.24	.16	.20	.18	.03	.00	.01	.54	.45	.78	.17	.17	.11
Work	15+00	9:10	.33	.19	.01	.00	.14	.23	.06	.09	.24	.35	.19	.19	.02	.01	.17
☐ Clear & Grub	72+00	11:10	.00	.20	.13	.00	.02	.12	.28	.05	.05	.00	.45	.00	.14	.64	.21
☑ Excavation	4+00	2:10	.07	.10	.24	.22	.30	.25	.05	.02	.00	.00	.46	.95	.33	.01	.16
Equipment																	
☑ Scraper(s)																	
☑ Excavator(s)																	
☐ Grader(s)																	
☑ Truck(s)																	
☐																	
☐																	
☐																	

Remarks:

Report prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 8 /10 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office/Area	11:00	.00	.00	.00	.00	.00	.09	.00	.00	.01	.00	.00	.00	.00	.00	.00
	69+00	11:10	.03	.00	.00	.24	.26	.17	.11	.00	.08	.05	.01	.09	.00	.16	.22
	33+00	11:15	.07	.11	.00	.63	.00	.00	.15	.00	.72	.05	.20	.38	.13	.00	.31
Work	15+00	11:25	.00	.05	.01	.33	.36	.22	.00	.02	.50	.14	.45	.25	.09	.01	.41
Clear & Grub	69+00	1:20	.03	.01	.00	.90	.22	.10	.02	.00	.00	.01	.32	.04	.00	.00	.00
✓ Excavation	32+00	1:50	.22	.04	.00	.76	.82	.33	.11	.22	.08	.00	.24	.16	.01	.16	.11
	15+00	2:00	.00	.06	.14	.08	.38	.32	.17	.21	23	.23	.09	.00	.81	.61	.08
Equipment																	
Scraper(s)																	
✓ Excavator(s)																	
✓ Grader(s)																	
✓ Truck(s)																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 8 / 8 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:39	.01	.00	.01	.01	.00	.00	.00	.00	.01	.00	.00	.90	.19	.09	.00
	29+00	8:00	.00	.05	.09	.25	31	.01	.00	.11	.00	.37	.09	.00	.01	.24	.08
	19+00	8:15	.00	.00	.37	.92	82	.40	.35	.63	1.03	.66	.32	.08	.00	.02	.00
Work	9+00	8:30	.01	.00	.00	.00	.22	.05	.01	.00	.01	.03	.08	.17	.17	.16	.02
Clear & Grub	19+00	11:10	.05	.13	.24	.09	.00	00	.18	.12	.39	.26	.03	.01	.01	.00	.15
Excavation	29+00	1:50	.00	.01	.00	.38	.34	.16	.11	.09	.83	.95	.23	.12	.22	22	.29
	7+00	2:00	.03	.01	.01	.90	.19	.23	.47	.20	.05	.05	.00	.00	.01	.14	.18
Equipment	9+00	2:10	.00	.32	.28	.24	.13	.06	.77	.64	58	.15	.09	.50	.48	.96	.81
Scraper(s)																	
xcavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks: Good Dust Control keep it up.

Report prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 6 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:15	.03	.01	.00	.01	.00	.00	.01	.00	.00	.00	.00	.00	.00	.01	.00
	29+00	7:35	.15	.13	.19	.19	.23	.36	.08	.01	.05	.25	.23	.41	.52	.52	.09
	17+00	7:50	.25	.47	.31	.75	.57	.37	.21	.19	.25	.15	.61	.43	.21	.13	.11
Work	18+00	8:00	.26	.31	.19	.39	.41	.79	.17	.13	.39	.31	.15	.11	.37	.42	.13
Clear & Grub	5+00	8:15	1.68	1.90	6.85	2.51	.73	.71	.96	.39	.59	.35	.27	.45	2.23	9.78	1.48
Excavation	43+00	9:30	.00	.05	.20	.18	.07	.15	.09	.05	.03	.00	.32	.12	.00	.01	.00
Equipment																	
Scraper(s)																	
Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 13 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	9:30	.02	.00	.01	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.01
	73+00	9:45	.00	.08	.38	.38	.26	.75	.19	1.62	1.51	1.03	.09	.18	.42	.05	.40
	27+00	10:15	.00	.28	.48	.29	.81	.08	.11	.00	.00	.23	1.19	1.13	.21	.19	.46
Work	7+00	11:00	.00	.04	.08	.00	.21	.42	.76	.09	.00	.42	.34	.13	.18	.05	.00
✓ Clear & Grub	5+00	11:10	.00	.01	.00	.09	.12	.00	.00	.01	.05	.05	.00	.00	.01	.00	.00
✓ Excavation	43+00	2:20	1.62	1.12	.78	.33	.47	.12	.12	1.75	1.52	.66	.20	.21	2.81	2.00	.72
	29+00	2:30	.08	.00	.13	.13	.12	.36	.72	.12	.31	.37	.41	.09	.13	.25	.13
Equipment	9+00	2:45	.11	.06	.22	.37	.01	.00	.00	.48	1.58	.83	.76	.50	.09	.18	.09
✓ Scraper(s)																	
✓ Excavator(s)																	
Grader(s)																	
✓ Truck(s)																	
Blade																	

Remarks:

Report prepared by: Casildo Gonzalez

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 12 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	2:00	.15	.09	.01	.00	.00	.02	.00	.01	.09	.00	.00	.01	.00	.00	.00
	75+00	2:15	.05	.14	.01	.00	.26	.48	.31	.29	.16	.16	.25	.08	.05	.01	.17
	80+00	2:20	.19	.06	.23	.56	.76	.40	.32	.24	.28	.11	.10	.10	.00	.00	.00
Work	5+00	2:40	.01	.00	.08	.25	.30	.30	.26	.17	.25	.33	.33	.12	.02	.22	.39
✓ Clear & Grub																	
Excavation																	
Equipment																	
✓ Scraper(s)																	
✓ xcavator(s)																	
✓ Grader(s)																	
✓ Truck(s)																	
✓ blade																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 8 / 1 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:05	.00	.00	.00	.00	.00	.00	.00	.00	.09	.10	.09	.00	.00	.00	.00
	82+00-80+00	8:15	.14	.12	.14	.92	1.02	.70	.14	.16	.14	.16	.10	.06	.02	.10	.00
creek	15+00	8:45	.06	.10	.18	.02	34	36	14	.20	.38	.32	.40	.62	1.21	187	1.15
Work Lay	15+00	8:55	.12	.14	.12	.14	.00	.16	.12	.28	.12	.28	.36	.12	.02	.00	.21
Clear & Grub	82+00	10:20	.22	.18	.26	.34	.01	.12	.08	.13	.42	.75	.05	.18	.20	.16	.16
Excavation	80+00	10:25	.20	.14	.01	.00	.44	.56	.08	.05	.05	.00	.30	.29	.01	.00	.12
	15+00	10:45	.18	.20	.47	.20	.18	.18	.20	.22	.31	.20	.20	.22	.05	.14	.14
Equipment	17+00	10:55	.24	.19	.22	.22	.20	.27	.20	.25	.20	.20	.22	.18	.31	.31	.27
Scraper(s)																	
cavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo González

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /31 /01

AVG. .06
.34

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:00	.01	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00
	79+00	7:30	.00	.00	.05	.00	.01	.09	.13	.27	.19	.08	.00	.00	.01	.00	.11
	77+00	7:40	.09	.01	.00	.00	.32	.12	.26	.00	.03	.01	.00	.00	.95	.28	.20
Work	75+00	7:50	.05	.03	.00	.00	.00	.01	.19	.26	.05	.00	.01	.00	.08	.36	.42
✓ Clear & Grub	19+00	8:10	.00	.00	.05	.00	.00	.15	.01	.24	.19	.03	.00	.00	.02	.08	.22
✓ Excavation	10+00	8:15	.00	.00	.01	.00	.18	.00	.01	.17	.17	.01	.00	.00	.00	.10	.01
	77+00	11:15	.00	.03	.01	.00	.14	.01	.00	.05	.31	.62	.01	.00	.00	.00	.20
Equipment	15+00	11:30	.00	.03	.23	.18	.00	.00	.00	2.99	1.52	.00	.00	2.10	.00	.74	.00
✓ Scraper(s)	82+00	2:15	.03	.00	.38	.72	.61	.13	.02	.00	.00	.01	.00	.32	.19	.22	.17
✓ Excavator(s)	79+00	2:20	.00	.32	.34	.28	.28	.06	.01	.01	.12	.00	.00	.12	.33	.76	.41
Grader(s)																	
Truck(s)																	
✓ Blade																	

Remarks: Good dust control is being done.

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /30 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:00	.01	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.00	.00
	77+00	7:10	.03	.00	.06	2.43	.68	.00	.04	155	.12	1.44	3.00	5.01	.28	.00	.76
	76+00	7:25	.01	.00	.05	.55	.56	.14	.08	.04	.06	.03	.00	.00	.24	.32	.19
Work	75+00	7:40	.04	.03	.03	.00	.00	.03	.01	.03	.00	.18	.24	1.62	2.13	.36	.19
✓ Clear & Grub	5+00	8:00	.05	.04	.00	.00	.03	.05	.00	.17	.34	.36	.01	.00	.00	.09	.00
☐ Excavation	82+00	2:00	.06	.00	.38	.38	2.41	1.72	.03	.01	.00	.01	.12	.29	.24	.18	.02
	80+00	2:10	.10	.25	1.51	1.86	1.13	.61	.08	.04	.00	.00	.56	.35	.01	.01	.00
Equipment	77+00	2:20	.00	.00	.21	.17	.11	.35	.35	.04	.01	.06	.41	.15	.32	.08	.01
✓ Scraper(s)	10+00	2:40	.01	.00	.00	.03	.00	.01	.00	.01	.08	.05	.00	.00	.01	.00	.00
✓ Excavator(s)	9+00	2:30	.00	.01	.00	.00	.05	.02	.00	.00	.01	.00	.03	.00	.01	.00	.00
✓ Grader(s)																	
✓ Truck(s)																	
✓ Blade																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 7 /27 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	Office-Area	7:30	.01	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
	79+00	7:40	.34	.36	.22	.22	.21	.45	.48	.05	.01	.00	.00	.12	.08	.32	.36
	75+00	7:50	.09	.01	.00	.00	.34	.05	1.45	1.17	1.05	1.50	.45	.43	.31	.31	.32
Work	71+00	8:00	.05	.04	.01	.26	.17	.16	.10	.08	.19	.24	.14	.21	.04	.05	.01
✓ Clear & Grub	69+00	9:30	.51	.30	.28	.30	.05	.00	.00	.04	.01	.08	.08	.01	.01	.00	.00
✓ Excavation	22+00	11:00	.00	.00	.21	.24	.17	.17	.14	.34	1.22	1.08	.43	.36	.39	.40	.22
	2+00	2:30	.33	.27	.26	.13	.06	.01	.06	.05	.00	.00	.01	.00	.01	.00	.00
Equipment	79+00	2:40	.41	.46	.18	.05	.18	.14	.01	.00	.38	.45	.36	.08	.00	.00	.01
✓ Scraper(s)	75+00	2:49	.39	1.23	1.56	1.30	.32	.05	.00	.00	.37	.25	.25	.16	.16	.08	.43
cavator(s)																	
Grader(s)																	
Truck(s)																	
✓ 973																	

Remarks: Numbers ain't so bad good readings

Report prepared by: Casido

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /26/01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	8:30	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	77+00	8:40	.00	.00	.00	.05	.13	.35	.04	.00	.00	.31	.33	.09	.09	.03	.13
	1+00	9:00	.00	.05	.00	.01	.00	.01	.00	.03	.00	.01	.04	.00	.01	.04	.05
Work	75+00	11:00	.01	.00	.22	.17	.17	.36	.43	.21	1.34	.46	.48	.26	.17	.16	.17
☑ Clear & Grub	1+00	11:15	.05	.04	.01	.00	.00	.01	.04	.04	.00	.00	.00	.14	.05	.23	.19
☐ Excavation	77+00	1:30	.01	.00	.00	.15	.26	.24	.17	.39	.43	.05	.01	.01	.27	.27	.01
Equipment																	
☑ Scraper(s)																	
☐ Excavator(s)																	
☐ Grader(s)																	
☐ Truck(s)																	
☑ 973																	
☐																	
☐																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /25 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround																	
	72+00	7:50	.05	.00	.01	.05	.00	.00	.24	.01	.94	.17	.17	.34	31	.26	.17
	1+00	8:45	.00	.17	.24	.18	.17	.13	.36	.45	1.24	.34	.34	.26	.24	.18	.05
Work	72+00	10:40	.00	1.65	.00	.04	.00	.14	.17	.05	.24	.36	.06	.00	.01	.00	.14
✓ Clear & Grub	51+00	11:00	.00	.00	.04	.00	.00	.00	.06	.00	.00	.00	.34	.00	.00	.24	.00
Excavation	9+00	2:00	.17	.74	.18	.45	152	1.16	.52	.26	.26	.17	.18	.05	.01	.90	.14
Equipment																	
✓ Scraper(s)																	
✓ Excavator(s)																	
Grader(s)																	
Truck(s)																	
✓ Blade																	
✓ 973																	

Remarks:

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /24/01

Loaction	Stations	Time	Reading mg/m3														
BackGround																	
	72+00	8:00	.30	.00	1.32	.00	3.01	1.28	.77	.00	.00	.86	.17	.00	3.42	.00	.00
	51+00	8:15	.13	.17	.15	.15	.17	.19	.15	.17	.19	.00	.00	.00	.27	.00	.00
Work	61+00	9:15	.10	.00	.00	.00	.00	.00	2.58	.37	.00	.00	.00	.17	.26	.00	.13
✓ Clear & Grub	68+00	9:50	.64	.62	.62	.58	.13	.09	.07	.05	.05	.03	.01	.01	.05	.32	.38
Excavation	1+00	11:50	.08	.10	.04	.00	.06	.18	.12	.34	.24	.06	.06	.00	.22	.22	.02
	69+00	1:25	.67	.47	.16	.20	.24	.08	.00	.22	.06	.14	.22	.24	.20	.04	.18
Equipment	61+00	2:00	.34	.39	.21	.00	.34	.04	.00	1.29	1.07	.44	.48	.40	.40	.32	.17
Scraper(s)																	
✓ Excavator(s)																	
Grader(s)																	
Truck(s)																	
1973																	

Remarks: Clearing Brush, weed loading trucks

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 7 / 23 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	68+50	8:15	.08	.00	.40	1.03	1.01	.81	.13	.69	14	.08	.45	.26	1.19	1.15	.47
	72+00	8:58	1.01	.36	.09	.18	.41	1.29	.18	.49	.01	.89	.83	.17	1.18	.85	.51
	61+00	9:18	.01	.00	.17	.01	.03	.09	.11	.28	.31	.46	.49	.36	.09	.32	.27
Work	69+00	9:45	.17	.82	.83	.41	.34	1.05	3.46	1.19	.84	.93	.51	.13	.41	.83	.69
☑ Clear & Grub	63+00	10:18	.00	.19	.00	.05	.37	.53	.29	.01	.19	.13	.46	.39	.17	.09	.16
☑ Excavation	64+00	10:40	-.55	.00	.00	.55	.04	.01	.35	.00	.01	.29	.01	.35	.00	.25	.31
	71+00	11:45	01	.63	.41	.53	.09	.17	1.31	.13	.26	.83	.79	.72	.48	.43	.01
Equipment	56+00	1:18	.39	.01	.00	.13	.26	.01	.00	.09	.01	.08	.21	.15	.06	.11	.24
☐ Scraper(s)	62+00	2:05	.14	.31	.09	.00	.00	.01	.42	1.31	.81	.79	.09	.00	.01	.39	.04
☑ Excavator(s)																	
☐ Grader(s)																	
☐ Truck(s)																	
☐																	
☐																	
☐																	

Remarks: WORKING ON KEYWAY + CLEARING OF GRASS

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 /18 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	OFFICE	7:30	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
	9+00-41+00	11:30	.40	.39	.38	.39	.38	.41	.38	.40	.38	.35	.50	.50	.49	.49	.50
	9+00-41+00	3:00	.42	.29	.32	.33	.35	.33	.34	.33	.35	.36	.36	.37	.36	.35	.36
Work																	
✓ Clear & Grub																	
Excavation																	
Equipment																	
Scraper(s)																	
✓ Excavator(s)																	
Grader(s)																	
Truck(s)																	

Remarks:

Report Prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG
MINI RAM

Date: 7 / 17 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:10	.01	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
	50+00-56+00	7:30	.12	.07	.08	.11	.11	.13	.12	.11	.12	.15	.12	.12	.13	.12	.12
	50+00-56+00	9:30	.20	.20	.21	.22	.23	.21	.19	.18	.17	.15	.19	.18	.17	.20	.18
Work	75+00-83+00	10:30	.02	.05	.01	.02	.05	.03	.07	.09	.08	.03	.05	.06	.02	.06	.04
☑ Clear & Grub																	
☐ Excavation																	
Equipment																	
☐ Scraper(s)																	
☐ Excavator(s)																	
☐ Grader(s)																	
☑ Truck(s)																	
☐																	
☐																	
☐																	

Remarks:

Report prepared by: Casildo

FERMA CORPORATION
Guadalupe Creek Restotartion Project

AIR - DUST MONITORING LOG

MINI RAM

Date: 7 /16 /01

Loaction	Stations	Time	Reading mg/m3														
BackGround	office	7:20	.00	-.01	,00	.01											
	17+00-24+00	9:00	.24	.47	.21	.17	.32	.41	.23	.34	.12	.11	.20	.15	.12	.12	.11
	17+00-24+00	11:00	.12	.17	.19	.14	.22	.19	.15	.13	.21	.25	.25	.25	.25	.20	.20
Work	30+00-36+00	1:00	.33	.41	.41	.42	.45	32	.30	.30	.29	.29	.32	.35	.25	.29	.29
☑ Clear & Grub	50+00-56+00	2:30	.21	.19	.17	.15	.18	.40	.35	.19	.12	.15	.15	.16	.16	.16	.17
☐ Excavation																	
Equipment																	
☑ Scraper(s)																	
☐ Excavator(s)																	
☐ Grader(s)																	
☐ Truck(s)																	
☑ Blade																	
☐																	
☐																	

Remarks:

Report Prepared by: Casildo

RJ LeeGroup, Inc.

530 McCormick Street, San Leandro, CA 94577
510/567-0480 • 510/567-0488·FAX

TO: Mark
COMPANY: FERMA
FAX NO. 408 265 0458
FR: Ben Schiefelbein
DT:
RE:

Total Number of Pages Transmitted (including cover page) 9

MESSAGE:

The American Industrial Hygiene Association

is proud to acknowledge that

RJ Lee Group, Inc.

Monroeville, PA

has fulfilled the requirements for and has been formally recognized by AIHA and is technically competent to perform the analyses listed in the following

SCOPE OF ACCREDITATION

INDUSTRIAL HYGIENE
Originally Accredited: 09/01/91

_X_ Metals
_X_ Asbestos PCM
_X_ Organic Solvents
_X_ Silica
_X_ Asbestos PLM
X Diffusive Samples

ENVIRONMENTAL LEAD
Originally Accredited: 12/05/95

_X_ Paint Chips
X Dust Wipes
___ Air
_X_ Soil

ENVIRONMENTAL MICROBIOLOGY

___ Bacteria
___ Fungi

The above named laboratory agrees to perform all analyses listed above in the scope of accreditation according to applicable policy requirements and acknowledges that continued accreditation is dependent on successful participation in the appropriate proficiency testing programs. This laboratory may be contacted to verify the current scope of accreditation, proficiency testing performance and accreditation status. Accreditation by AIHA is not a guarantee of the validity of the data generated by the laboratory.

Laboratory # 100364
Certificate # 460

IH Accreditation Expires: 03/01/03
Lead Accreditation Expires: 12/05/01

Colleen Becker
Colleen Becker
Chair, Analytical Accreditation Board

James R. Thornton
James R. Thornton, CIH, CSP
President, AIHA

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES

ENVIRONMENTAL LABORATORY CERTIFICATION

is hereby granted to

RJ LEE GROUP, INC.

MONROEVILLE LABORATORY

350 HOCHBERG RD.

MONROEVILLE, PENNSYLVANIA

to conduct analyses of environmental samples as specified in the "List of Approved Fields of Testing and Analytes" which accompanies this Certificate.

This Certificate is granted in accordance with provisions of Section 1010, et seq. (New Section 100825) of the Health and Safety Code.

Certificate No.: 1970

Expiration Date: 02/28/2002

Issued on: 02/01/2000
at Berkeley, California,
subject to forfeiture or revocation.

George C. Kulasingam

George C. Kulasingam, Ph.D.
Manager
Environmental Laboratory Accreditation Program

FoT 3 ANALYSIS OF TOXIC CHEMICAL ELEMENTS IN DRINKING WATER

Analyte	Method Name	Instrumentation	Key / Method No.
[√] 3.1 Arsenic	Graphite Furnace AA ICP	Varian SpectrAA-400 Spectro Analytical FTP-E8	H 3113B X 200.7
[√] 3.2 Barium	ICP	Spectro Analytical FTP-E8	A 200.7
[√] 3.3 Cadmium	ICP	Spectro Analytical FTP-E8	A 200.7
[√] 3.4 Chromium, Total	ICP	Spectro Analytical FTP-E8	A 200.7
[√] 3.5 Copper	ICP	Spectro Analytical FTP-E8	A 200.7
[ ] 3.6 Iron			
[√] 3.7 Lead	Graphite Furnace AA	Varian SpectrAA-400	H 3113B
[ ] 3.8 Manganese			
[√] 3.9 Mercury	Cold Vapor AA	Varian SpectrAA-300	X 245.1
[√] 3.10 Selenium	Graphite Furnace AA	Varian SpectrAA-400	H 3113B
[√] 3.11 Silver	ICP	Spectro Analytical FTP-E8	A 200.7
[ ] 3.12 Zinc			
[ ] 3.13 Aluminum			
[ ] 3.14 Asbestos			
[√] 3.17 Antimony	Graphite Furnace AA	Varian SpectrAA-400	H 3113B
[√] 3.18 Beryllium	ICP	Spectro Analytical FTP-E8	A 200.7
[√] 3.19 Nickel	ICP	Spectro Analytical FTP-E8	A 200.7
[√] 3.20 Thallium	Graphite Furnace AA	Varian SpectrAA-400	X 200.9
[ ] 3.99 Others			

Please complete the following:

LABORATORY NAME RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE : (Print Name) Alan M. Levine

SIGNATURE:____________________ Date:__________

FOR ELAP USE ONLY

Pre-visit form reviewedby:____________________ Date:__________

[ ] All methods, procedures and instrumentation acceptable:__________

[ ] Unacceptable methods (list):__________

[ ] Unacceptable variance in procedures/instrumentation (list):__________

FoT 10 INORGANIC CHEMISTRY AND TOXIC CHEMICAL ELEMENTS OF HAZARDOUS WASTE

Analyte	Method Name	Instrumentation	Key/Method No.
[√] 10.1 Antimony	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.2 Arsenic	Graphite Furnace AA ICP	Varian SprectrAA-400 Spectro Analytical FTP-E8	C2 7060A C1 6010A
[√] 10.3 Barium	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.4 Beryllium	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.5 Cadmium	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.6 Chromium, total	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.7 Cobalt	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.8 Copper	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.9 Lead	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.10 Mercury	Cold Vapor AA	Varian SpectrAA-300	C2 7470A
[√] 10.11 Molybdenum	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.12 Nickel	ICP	Spectro Analytical FTP-E8	C1 6010A

Please complete the following:

LABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M Levine

SIGNATURE: DATE:

FOR ELAP USE ONLY

Pre-visit form reviewed by: Date:

[ ] All methods, procedures and instrumentation acceptable:

[ ] Unacceptable methods (list):

[ ] Unacceptable variance in procedure/instrumentation (list):

FoT 10 **INORGANIC CHEMISTRY AND TOXIC CHEMICAL ELEMENTS OF HAZARDOUS WASTE** continued

Analyte	Method Name	Instrumentation	Key/Method No.
[√] 10.13 Selenium	Graphite Furnace AA ICP	Varian SprectrAA-400 Spectro Analytical FTP-E8	C 7740 C1 6010A
[√] 10.14 Silver	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.15 Thallium	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.16 Vanadium	ICP	Spectro Analytical FTP-E8	C1 6010A
[√] 10.17 Zinc	ICP	Spectro Analytical FTP-E8	C1 5010A
[ ] 10.18 Chromium (VI)			
[ ] 10.19 Cyanide			
[ ] 10.20 Fluoride			
[ ] 10.21 Sulfide			
[ ] 10.99 Others (Specify)			

Please complete the following:

LABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M. Levine

SIGNATURE: DATE:

FOR ELAP USE ONLY

Pre-visit form reviewed by: Date:

[ ] All methods, procedures and instrumentation acceptable:

[ ] Unacceptable methods (list):

[ ] Unacceptable variance in procedure/instrumentation (list):

FoT 11 EXTRACTION TESTS OF HAZARDOUS WASTE

Extraction Test	Apparatus	Key/Method No.
[√] 11.1 Waste Extraction Test (WET)	Sieve, Extractor	R Chapt 11, Art 5, Appendix II
[ ] 11.2 Extraction Procedure Toxicity (EPTox)		
[ ] 11.3 Toxicity Characteristic Leaching Procedure (TCLP) All classes		
[√] 11.4 TCLP Inorganics Only	TCLP Leaching Mixer	C 1311
[ ] 11.5 TCLP Extractables Only		
[ ] 11.6 TCLP Volatiles Only		
[ ] 11.99 Others (Specify)		

Please complete the following:

LABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M. Levine

SIGNATURE: ____________________ DATE: __________

FOR ELAP USE ONLY

Pre-visit form reviewed by: ____________________ Date: __________

[ ] All methods, procedures and instrumentation acceptable: __________

[ ] Unacceptable methods (list): __________

[ ] Unacceptable variance in procedure/instrumentation (list): __________

Revised 1-96

oT 17 ANALYSIS OF TOXIC CHEMICAL ELEMENTS IN WASTEWATER

Analyte	Method Name	Instrumentation	Key/Method No.
[ ] 17.1 Aluminum			
[√] 17.2 Antimony	ICP	Spectro Analytical FTP-E8	X 200.7
[√] 17.3 Arsenic	Graphite Furnace ICP	Varian SpectrAA-400 Spectro Analytical FTP-E8	A 206.2 X 200.7
[√] 17.4 Barium	ICP	Spectro Analytical FTP-E8	X 200.7
[√] 17.5 Beryllium	ICP	Spectro Analytical FTP-E8	X 200.7
[√] 17.6 Cadmium	ICP	Spectro Analytical FTP-E8	X 200.7
[ ] 17.7 Chromium (VI)			
[√] 17.8 Chromium, Total	ICP	Spectro Analytical FTP-E8	X 200.7
[ ] 17.9 Cobalt			
[√] 17.10 Copper	ICP	Spectro Analytical FTP-E8	X 200.7
[ ] 17.11 Gold			
[ ] 17.12 Iridium			
[ ] 17.13 Iron			
[√] 17.14 Lead	ICP	Spectro Analytical FTP-E8	X 200.7
[ ] 17.15 Manganese			
[√] 17.16 Mercury	Cold Vapor AA	Varian SpetrAA-300	A 245.1

lease complete the following:

ABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M. Levine

SIGNATURE: ____________________ DATE: ____________

OR ELAP USE ONLY

Pre-visit form reviewed by: ____________________ Date: ____________

[ ] All methods, procedures and instrumentation acceptable: ____________

[ ] Unacceptable methods (list): ____________

[ ] Unacceptable variance in procedure/instrumentation (list) ____________

pT 17 **ANALYSIS OF TOXIC CHEMICAL ELEMENTS IN WASTEWATER** continued

Analyte	Method Name	Instrumentation	Key/Method No.
☐ 17.17 Molybdenum			
☑ 17.18 Nickel	ICP	Spectro Analytical FTP-E8	X 200.7
☐ 17.19 Osmium			
☐ 17.20 Palladium			
☐ 17.21 Platinum			
☐ 17.22 Rhodium			
☐ 17.23 Ruthenium			
☑ 17.24 Selenium	Graphite Furnace AA	Varian SpectrAA-400	A 270.2
☑ 17.25 Silver	ICP	Spectro Analytical FTP-E8	X 200.7
☑ 17.27 Thallium	Graphite Furnace AA	Varian SpectrAA-400	A 279.2
☐ 17.28 Tin			
☐ 17.29 Titanium			
☐ 17.30 Vanadium			
☐ 17.31 Zinc			
☐ 17.32 Asbestos			
☐ 17.98 Other (Specify)			

lease complete the following:

ABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M Levine

SIGNATURE: ______________________ DATE: __________

OR ELAP USE ONLY

Pre-visit form reviewed by: ______________________ Date: __________

☐ All methods, procedures and instrumentation acceptable: ______________________

☐ Unacceptable methods (list): ______________________

☐ Unacceptable variance in procedure/instrumentation (list) ______________________

FoT 14 BULK ASBESTOS ANALYSIS

	Method Name	Instrumentation	Reference
[√] 14.1 Bulk Asbestos (1% or greater asbestos concentrations)	Polarized Light	PLM Microscope	R Section 66261.24 (a)(2)(A)

[√]Laboratory certified by NVLAP: Date certified: through 6/30/99 Certificate No.: 101208-00

[ ]Have applied for NVLAP accreditation: Date applied:________________

Please complete the following:

LABORATORY NAME: RJ Lee Group, Inc.

LAB DIRECTOR OR REPRESENTATIVE (Print Name) : Alan M. Levine

SIGNATURE:________________ DATE:________

FOR ELAP USE ONLY

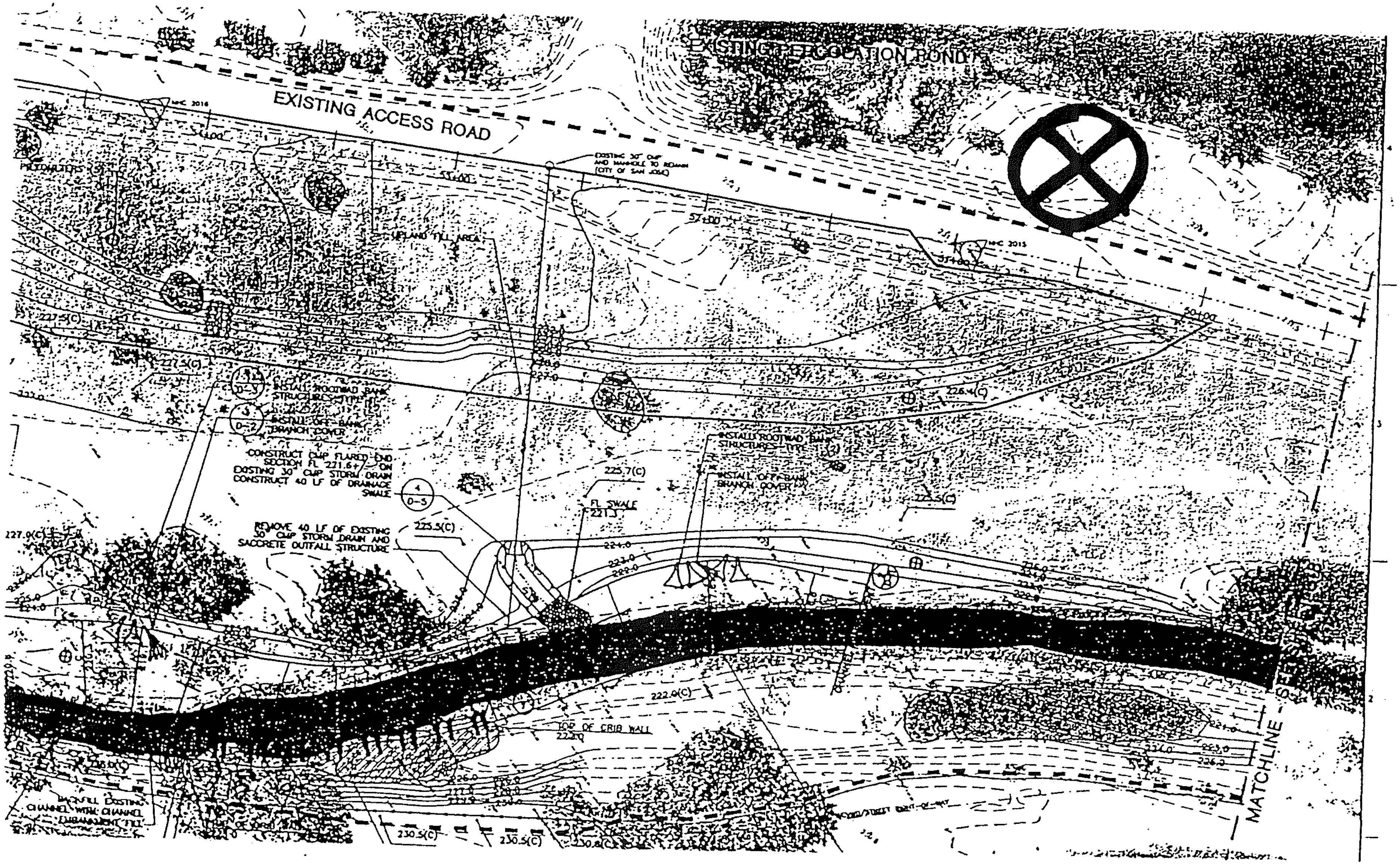
Pre-visit form reviewed by:________________ Date:________

[ ] All methods, procedures and instrumentation acceptable:________________

[ ] Unacceptable methods (list):________________

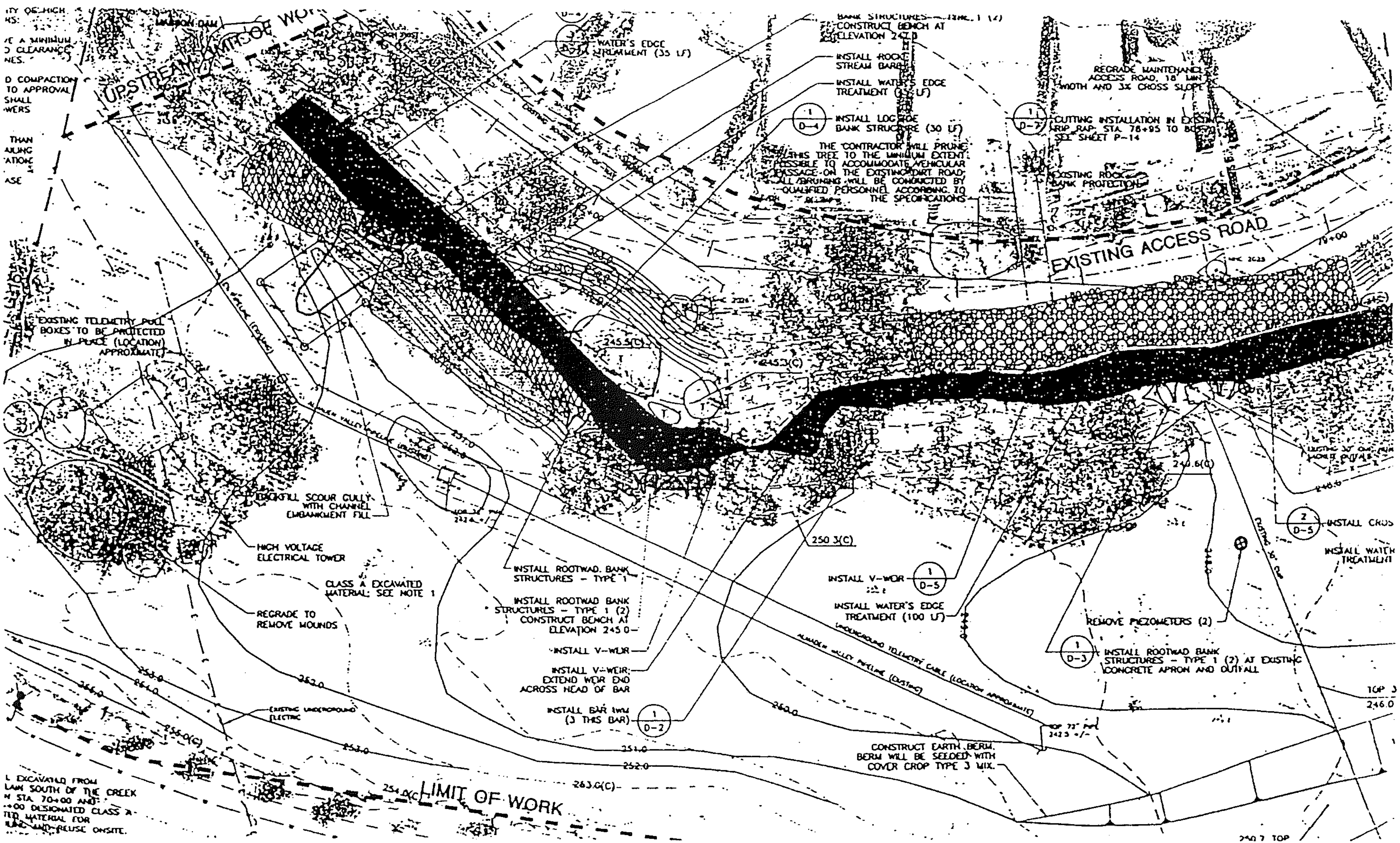
[ ] Unacceptable variance in procedure/instrumentation (list):________________

STA. North 51+00



EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
EXISTING 30" CMP AND MANHOLE TO REMAIN (CITY OF SAN JOSE)
UPLAND FILL AREA
56+00
57+00
55+00
50+00
MC 2016
MC 2015
227.5(C)
226.0
227.0
226.4(C)
INSTALL ROOTWAD BANK STRUCTURES—TYPE 1
INSTALL OFF-BANK BRANCH COVER
D-2
D-3
CONSTRUCT CMP FLARED END SECTION FL 221.6± ON EXISTING 30" CMP STORM DRAIN CONSTRUCT 40 LF OF DRAINAGE SWALE
4
D-5
225.7(C)
FL SWALE 221.3
225.5(C)
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
227.0(C)
224.0
223.0
222.0
225.0
INSTALL ROOTWAD BANK STRUCTURES—TYPE 1
INSTALL OFF-BANK BRANCH COVER
222.0(C)
TOP OF CRIB WALL 222.0
BACKFILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
230.5(C)
230.5(C)
230.8(C)
RIGHT-OF-WAY
MATCHLINE

STA S outh 81+00


UPSTREAM LIMIT OF WORK
LIMIT OF WORK
EXISTING ACCESS ROAD
WATER'S EDGE TREATMENT (35 LF)
BANK STRUCTURES — TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 247.0
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL LOG ROE BANK STRUCTURE (30 LF)
D-4
D-2
THE CONTRACTOR WILL PRUNE THIS TREE TO THE MINIMUM EXTENT POSSIBLE TO ACCOMMODATE VEHICULAR PASSAGE ON THE EXISTING DIRT ROAD. ALL PRUNING WILL BE CONDUCTED BY QUALIFIED PERSONNEL ACCORDING TO THE SPECIFICATIONS
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN WIDTH AND 3% CROSS SLOPE
CUTTING INSTALLATION IN EXISTING RIP RAP, STA. 78+95 TO 80+ SEE SHEET P-14
EXISTING ROCK BANK PROTECTION
79+00
EXISTING TELEMETRY PULL BOXES TO BE PROTECTED IN PLACE (LOCATION APPROXIMATE)
245.5(C)
245.3(C)
BACKFILL SCOUR GULLY WITH CHANNEL EMBANKMENT FILL
HIGH VOLTAGE ELECTRICAL TOWER
CLASS A EXCAVATED MATERIAL: SEE NOTE 1
REGRADE TO REMOVE MOUNDS
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 245.0
INSTALL V-WEIR
INSTALL V-WEIR; EXTEND WEIR END ACROSS HEAD OF BAR
INSTALL BAR (3 THIS BAR)
250.3(C)
INSTALL V-WEIR
D-5
INSTALL WATER'S EDGE TREATMENT (100 LF)
REMOVE PIEZOMETERS (2)
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) AT EXISTING CONCRETE APRON AND OUTFALL
D-3
240.6(C)
INSTALL CROS
INSTALL WATER TREATMENT
TOP 3
246.0
ALMADEN VALLEY PIPELINE (EXISTING)
UNDERGROUND TELEMETRY CABLE (LOCATION APPROXIMATE)
EXISTING UNDERGROUND ELECTRIC
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX.
253.0
252.0
251.0
263.0(C)
254.0(C)
255.0(C)
250.7 TOP
TY OF HIGH
RS:
E A MINIMUM
D CLEARANCE
NES.
D COMPACTION
TO APPROVAL
SHALL
WERS
THAN
ALING
ATION
ASE
L EXCAVATED FROM
LAIN SOUTH OF THE CREEK
N STA. 70+00 AND
+00 DESIGNATED CLASS A
TED MATERIAL FOR
URE AND REUSE ONSITE.

RJ Lee *Group*, Inc.

350 Hochberg Road Monroeville, PA 15146
Phone (724) 325-1776 Fax (724) 733-1799

LABORATORY REPORT

FERMA Corporation
1265 Montecito Avenue, Suite 200
Mountian View, CA 94043
Attention: Mark Abutair
408-265-0257 FAX 408-265-0458

Analysis: Mercury Particulate
Method: OSHA ID 145 — MCV

RJ Lee Group Job No.: ACC109589
Samples Received: 25-Sep-01
Report Date: 26-Sep-01
Client Project: 4330
Guadalupe Creek Restoration
Sampling Date: See Client ID's

Limit of Detection: Mercury 0.0500 Total µg

Sample Identification		Sample Volume (liters)	Sampling Time (minutes)	Mercury	
Client	RJ Lee Group			Total µg	µg/m³
S1N 51+00 (9-04-01	0338538	----	----	< 0.050	----
S1S 81+00 (9-04-01)	0338539	----	----	< 0.050	----
S2N 51+00 (9-12-01	0338540	----	----	< 0.050	----
S2S 81+00 (9-12-01)	0338541	----	----	< 0.050	----
S3N 51+00 (9-17-01	0338542	----	----	< 0.050	----
S3S 81+00 (9-17-01)	0338543	----	----	< 0.050	----
S4N 51+00 (9-19-01	0338544	----	----	< 0.050	----
S4S 81+00 (9-19-01)	0338545	----	----	< 0.050	----
S5N 51+00 (9-21-01	0338546	----	----	< 0.050	----
S5S 81+00 (9-21-01)	0338547	----	----	< 0.050	----

No sampling times or air volumes received with this set of samples.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

S. Paul Cohen, Laboratory Manager ☐
Brandon J. Miller, Assistant Scientist ☐
Ryan B. Walters, Assistant Scientist ☐
Kimberly S. DiNatale, Scientist ☑
Philip Grindle, Supervisor ☐
Melisa Varner, Assistant Scientist ☐
________________ ☐
Alan M. Levine, Manager ☐

Please direct inquiries to Brandon J. Miller in Client Services.

Authorized Signature__________

Date 9/26/01

ACC109589 Due! 9-25-01

RJ LeeGroup, Inc.

Request for Laboratory Services

Shaded Areas For RJ Lee Group Use | Page 1 of 1

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In By

Purchase Order No.

Client Job. No. 4330

Report Results To

Name MARK ABUTAIR Title P.E.

Company FERMA CORPORATION Dept.

Street Address 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW

Phone No. 408-265-0257 Fax No. 408 265-0458

Send Invoice To

Name Title

Company Dept.

Street Address

City, State, Zip

Phone No. Fax No.

Date & Time Results Requested: ASAP Rush Charge Authorized ☐

(standard TA assumed if left blank; do not use vague terms like ASAP)

Special Instructions: (method, limit of detection, etc.)

Preservation:

(complete if applicable)

Drinking Water ? ☐

State in which collected

Analyses Requested

(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S1 N 51+00	9-4-01		5 days	51+00 N					✓						
S1 S 81+00	9-4-01		5 days	81+00 S											

0338538

0338539

Chain of Custody

Relinquished by: Date/Time

Method of Shipment:

Relinquished by: Date/Time

Method of Shipment:

Received by: Al Edwards Date/Time 9-21-01 @ 4:45

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Received at Lab by: Date/Time 9/25/01 9:30

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road	350 McCormick Street	10503 Battleview Pky
Monroeville, PA 15146	San Leandro, CA 94577	Manassas, VA 20109
(724) 325-1776 Voice	(510) 567-0480 Voice	(703) 368-7880 Voice
(724) 733-1799 Fax	(510) 567-0484 Fax	(703) 368-7761 Fax

ACC109589

RJ LeeGroup, Inc.

Request for Laboratory Services

Due: 9-25-01

Shaded Areas For RJ Lee Group Use — Page 1 of 1

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In — By

Purchase Order No.

Client Job. No. 4330

Report Results To

Name MARK ABU TAIR — Title P.E.

Company FERMA CORPORATION — Dept.

Street Address 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW

Phone No. 408-265-0257 — Fax No. 408 265-0458

Send Invoice To

Name — Title

Company — Dept.

Street Address

City, State, Zip

Phone No. — Fax No.

Date & Time Results Requested: ~~ASAP~~ 9-25-1 — Rush Charge Authorized ☒

(standard TA assumed if left blank; do not use vague terms like ASAP)

Special Instructions: (method, limit of detection, etc.)

Preservation:

(complete if applicable)

Drinking Water ? ☐

___ State in which collected

Analyses Requested

(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S2N 51+00	9-12-01		5 days	51+00 N					✓						
S2S 81+00	9-12-01		5 days	81+00 S					✓						

0338540

0338541

Chain of Custody

Relinquished by: — Date/Time

Method of Shipment:

Relinquished by: — Date/Time

Method of Shipment:

Received by: M. Edwards — Date/Time 9-21-01 @ 4:45

Sample Condition Upon Receipt: Acceptable ☐ — Other (explain on reverse) ☐

Received at Lab by: — Date/Time 9/25/01 9:50

Sample Condition Upon Receipt: Acceptable ☐ — Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Needs Results 09-25

Charge $23 ea

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

350 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7761 Fax

ACC109589

RJ LeeGroup, Inc.

Request for Laboratory Services

Shaded Areas For RJ Lee Group Use | Page 1 of

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In | By

Purchase Order No. | Client Job. No. 4330

Report Results To

Name MARK ABUTAIR | Title P.E.

Company FERMA CORPORATION | Dept.

Street Address 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW

Phone No. 408-265-0257 | Fax No. 408 265-0458

Send Invoice To

Name | Title

Company | Dept.

Street Address

City, State, Zip

Phone No. | Fax No.

Date & Time Results Requested: ASAP | Rush Charge Authorized ☐

(standard TA assumed if left blank; do not use vague terms like ASAP)

Special Instructions: (method, limit of detection, etc.)

Preservation:

(complete if applicable)

Drinking Water ? ☐

____ State in which collected

Analyses Requested

(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S3N 51+00	9-17-01		5 days	51+00 N					✓						
S3S 81+00	9-17-01		5 days	81+00 S					✓						

0338542

0338543

Chain of Custody

Relinquished by: | Date/Time

Method of Shipment:

Relinquished by: | Date/Time

Method of Shipment:

Received by: V. | Date/Time 9-21-2001 @1645

Sample Condition Upon Receipt: Acceptable ☐ | Other (explain on reverse) ☐

Received at Lab by: | Date/Time 9/25/01 9:30

Sample Condition Upon Receipt: Acceptable ☐ | Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

350 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7761 Fax

Due: 9-25-01

ACC109589.

RJ Lee*Group*, Inc.

Request for Laboratory Services

Shaded Areas For RJ Lee Group Use — Page 1 of 1

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In By

Purchase Order No.

Client Job. No. 4330

Report Results To

Name MARK ABUTAIR Title P.E.

Company FERMA CORPORATION Dept.

Street Address 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW 94043-4581

Phone No. 408-265-0257 Fax No. 408 265-0458

Send Invoice To

Name Title

Company Dept.

Street Address

City, State, Zip

Phone No. Fax No.

Date & Time Results Requested: ASAP Rush Charge Authorized ☐

(standard TA assumed if left blank; do not use vague terms like ASAP)

Special Instructions: (method, limit of detection, etc.)

Preservation:

(complete if applicable)

Drinking Water ? ☐

___ State in which collected

Analyses Requested (Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S4N 51+00	9-19-01		8 hrs	51+00 N					✓						
S4S 81+00	9-19-01		8 hrs	81+00 S											

0338544

0338545

Chain of Custody

Relinquished by: Date/Time

Method of Shipment:

Relinquished by: Date/Time

Method of Shipment:

Received by: N. Date/Time 9-21-2001 @164

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Received at Lab by: Date/Time 9/25/01 9:5

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7761 Fax

ACC10 9589 Doc! 9-25-01

RJ LeeGroup, Inc.

Request for Laboratory Services

Shaded Areas For RJ Lee Group Use

Page ____ of ____

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In By

Purchase Order No.

Client Job. No. 4330

Report Results To

Name MARK ABU TAIR Title P.E.

Company FERMA CORPORATION Dept.

Street Address ~~3~~ 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW

Phone No. 408-265-0257 Fax No. 408 265-0458

Send Invoice To

Name Title

Company Dept.

Street Address

City, State, Zip

Phone No. Fax No.

Date & Time Results Requested:
(standard TA assumed if left blank; do not use vague terms like ASAP)

Rush Charge Authorized ☐

Special Instructions: (method, limit of detection, etc.)

(complete if applicable)
Drinking Water ? ☐
____ State in which collected

Preservation:

Analyses Requested
(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S5:N 51+00	9-21-01		8hrs	51+00 N					✓						
S5 S 81+00	9-21-01		8hrs	81+00 S					✓						

0338546

0338547

Chain of Custody

Relinquished by: Date/Time

Method of Shipment:

Relinquished by: Date/Time

Method of Shipment:

Received by: Date/Time

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Received at Lab by: Date/Time 9/25/01 9:30

Sample Condition Upon Receipt: Acceptable ☐ Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

350 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7761 Fax

RJ Lee *Group*, Inc.

350 Hochberg Road Monroeville, PA 15146
Phone (724) 325-1776 Fax (724) 733-1799

LABORATORY REPORT

FERMA Corporation
1265 Montecito Avenue, Suite 200
Mountian View, CA 94043
Attention: Mark Abutair
408-265-0257 FAX 408-265-0458

RECEIVED
OCT 15 2001

RJ Lee Group Job No.: ACC109607
Samples Received: 1-Oct-01
Report Date: 1-Oct-01
Client Project: 4330
NA
Sampling Date: 28-Sep-01

Analysis: Mercury Particulate
Method: OSHA ID 145 — MCV

Limit of Detection: Mercury 0.0500 Total µg

Sample Identification		Sample Volume (liters)	Sampling Time (minutes)	Mercury	
Client	RJ Lee Group			Total µg	µg/m³
S6N 51+00	0339162	—	—	< 0.050	—
S6S 81+00	0339163	—	—	< 0.050	—

No sampling times or air volumes received with this set of samples.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

S. Paul Cohen, Laboratory Manager ☐
Brandon J. Miller, Assistant Scientist ☐
Ryan B. Walters, Assistant Scientist ☐

Kimberly S. DiNatale, Scientist ☑
Philip Grindle, Supervisor ☐
Melisa Varner, Assistant Scientist ☐

________________________________ ☐
Alan M. Levine, Manager ☐

Please direct inquiries to Brandon J. Miller in Client Services.

Authorized Signature____________

Date 10/1/01

ACC109667

RJ LeeGroup, Inc.

Request for Laboratory Services

Shaded Areas For RJ Lee Group Use

Page ____ of ____

Project No. GUADALUPE CREEK RESTORATION

Batch No.

Client No.

Date Logged In   By

Purchase Order No.

Client Job. No. 4330

Report Results To

Name MARK ABU TAIR   Title P.E.

Company FERMA CORPORATION   Dept.

Street Address 1265 MONTECITO AVE, SUIT 200

City, State, Zip MOUNTAIN VIEW

Phone No. 408-265-0257   Fax No. 408 265-0458

Send Invoice To

Name   Title

Company   Dept.

Street Address

City, State, Zip   Fax No.

Phone No.

Rush Charge Authorized ☐

Date & Time Results Requested:

(standard TA assumed if left blank; do not use vague terms like ASAP)

Special Instructions: (method, limit of detection, etc.)

(complete if applicable)

Drinking Water ? ☐

____ State in which collected

Preservation:

Analyses Requested

(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
SG N 51+00	9-28-01		5 days	51+00 N					✓						
SG S 81+00	9-28-01		5 days	81+00 S					✓						

0339162

0339163

Chain of Custody

Relinquished by: Date/Time

Method of Shipment:

Relinquished by: Date/Time

Method of Shipment:

Received by: S Mu   Date/Time 9-28-01

Sample Condition Upon Receipt: Acceptable ☐   Other (explain on reverse) ☐

Received at Lab by: Date/Time 10/1/01 9:30

Sample Condition Upon Receipt: Acceptable ☐   Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

350 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7741 Fax

RJ Lee *Group*, Inc.

350 Hochberg Road Monroeville, PA 15146
Phone (724) 325-1776 Fax (724) 733-1799

LABORATORY REPORT

FERMA Corporation
1265 Montecito Avenue, Suite 200
Mountian View, CA 94043
Attention: Mark Abutair
408-265-0257 FAX 408-265-0458

RJ Lee Group Job No.: ACC110545
Samples Received: 8-Oct-01
Report Date: 11-Oct-01
Client Project: 4330
NA
Sampling Date: 5-Oct-01

RECEIVED
OCT 22 2001

Analysis: Mercury Particulate
Method: OSHA ID 145 — MCV

Limit of Detection: Mercury 0.0500 Total μg

Sample Identification		Sample Volume	Sampling Time	Mercury	
Client	RJ Lee Group	(liters)	(minutes)	Total μg	$\mu g/m^3$
S7N 51+00	0340016	—	—	< 0.050	—
S7S 81+00	0340017	—	—	< 0.050	—

No sampling times or air volumes received with this set of samples.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

S. Paul Cohen, Laboratory Manager ☐
Brandon J. Miller, Assistant Scientist ☐
Ryan B. Walters, Assistant Scientist ☐
Kimberly S. DiNatale, Scientist ☑
Philip Grindle, Supervisor ☐
Melisa Varner, Assistant Scientist ☐
______________________________ ☐
Alan M. Levine, Manager ☐

Please direct inquiries to Brandon J. Miller in Client Services.

Authorized Signature
Date 10/11/01

ACC 11 0345

RJ LeeGroup, Inc.
Request for Laboratory Services

Shaded Areas For RJ Lee Group Use | Page ____ of ____

Project No. GUADALUPE CREEK RESTORATION
Batch No.
Client No.
Date Logged In　　By

Purchase Order No.
Client Job No. 4330

Report Results To
Name MARK ABU TAIR　Title P.E.
Company FERMA CORPORATION　Dept.
Street Address 1265 MONTECITO AVE, SUIT 200
City, State, Zip MOUNTAIN VIEW
Phone No. 408-265-0257　Fax No. 408 265-0458

Send Invoice To
Name　Title
Company　Dept.
Street Address
City, State, Zip　Fax No.
Phone No.

Rush Charge Authorized ☐

Date & Time Results Requested:
(standard TA assumed if left blank; do not use vague terms like ASAP)

(complete if applicable)
Drinking Water ? ☐
____ State in which collected

Special Instructions: (method, limit of detection, etc.)
3-5 TAT

Preservation:

Analyses Requested
(Enter an "X" in the box below to indicate request.)

Client Sample Identification	Date Sampled	Matrix / Media	Sampling Time (min)	Area / Volume (specify units)	Preservatives	Temperature	pH	No. of Containers	Dust Hg						For Lab Use Only
S7:N 51+00	10-5-01		5 days	51+00 N					✓						
S7S 81+00	10-5-01		5 days	81+00 S					✓						

0340016

0340017

Chain of Custody
Relinquished by:　Date/Time
Method of Shipment:
Relinquished by:　Date/Time
Method of Shipment:

Received by: M. Edwards　Date/Time 10-5-01 @ 4:30
Sample Condition Upon Receipt:　Acceptable ☐　Other (explain on reverse) ☐
Received at Lab by:　Date/Time 10/8/01 9:30
Sample Condition Upon Receipt:　Acceptable ☐　Other (explain on reverse) ☐

Comments (continue on back of sheet, if necessary):

Please return completed form to one of the following RJ Lee Group labs:

350 Hochberg Road
Monroeville, PA 15146
(724) 325-1776 Voice
(724) 733-1799 Fax

350 McCormick Street
San Leandro, CA 94577
(510) 567-0480 Voice
(510) 567-0488 Fax

10503 Battleview Pky
Manassas, VA 20109
(703) 368-7880 Voice
(703) 368-7761 Fax

APPENDIX F

- Guadalupe Creek Restoration Project Storm Water Pollution Prevention Plan

PROJECT SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

FOR

GUADALUPE CREEK RESTORATION PROJECT FROM ALMADEN EXPRESSWAY TO MASSON DAM – PROJECT #301525

SCVWD
☑ NO EXCEPTION NOTED
☐ APPROVED AS NOTED
☐ REVISE AND RESUBMIT
☐ REJECT ☐ IN RECEIPT OF
☐ SEE ATTACHED COMMENTS
BY ________ DATE 7/20

The Project Specific Storm Water Pollution Prevention Plan Contained herein Has been reviewed/accepted by:

Reviewed/ Revised/Accepted by: Mark Abu-Tair
Ferma Corporation

Abu Tai

EMERGENCY PHONE NUMBERS

Corporate Office	Ferma Corporation …………	(650) 961-2742
Mark Abu-Tair	Safety Officer…………………	(510) 794-0412 Shop
	…………..	(650) 245-1523 Cell.
Mark Abu-Tair	Project Engineer. …………….	(510) 794-0412
Ken Alameda	Project Foreman………………	(408) 832-4899
Alan Kilik	Project Manager……………….	(650) 961-2742

LOCAL EMERGENCY CONTACTS

Ambulance	911
Police	911
Fire	911

Guadalupe Creek
STORM WATER POLLUTION PREVENTION PLAN

TABLE OF CONTENTS

Section

CERTIFICATION vi
FOREWORD viii

1.0 GENERAL 1
2.0 INTENT TO COMPLY 1
3.0 AMENDMENTS 2
4.0 SITE DESCRIPTION 2
  4.1 General 2
  4.2 Topography 3
  4.3 Existing Soil Data 3
  4.4 Construction Site Size and Percent Impervious 3
5.0 POTENTIAL SOURCE OF POLLUTANTS IN STORM WATER DISCHARGE 4
  5.1 History of Toxic Materials at the Construction Site ... 4
  5.2 List of Pollutants Possibly Present in Storm Water .... Discharge 5
6.0 CONTROL PRACTICE TO REDUCE POLLUTANTS IN STORM WATER DISCHARGE 5
  6.1 Responsible Individual 5
  6.2 Best Management Practices 6
  6.2.1 Drainage/Erosion Control Measures and Implementation 6
  6.2.2 Equipment Storage and Maintenance Area 10
  6.2.3 Maintenance of Dumpsters and Portable Toilets 10
6.2.4 Disposal of Cleared Vegetation 11
6.2.5 Post-Construction Storm Water Management.......... 11
6.2.6 Employee Training and Inspection 11
7.0 NON-STORM WATER MANAGEMENT 12
  7.1 Dust Control 12
7.2 Site Dewatering Discharge.................................. 12
8.0 WASTE MANAGEMENT AND DISPOSAL.................. 13

Guadalupe Creek
STORM WATER POLLUTION PREVENTION PLAN

TABLE OF CONTENTS

Guadalupe Creek
STORM WATER POLLUTION PREVENTION PLAN

TABLE OF CONTENTS

9.0 MAINTENANCE, INSPECTION AND REPAIR
9.0 CONTRACTORS & SUB-
10.0 PUBLIC INFORMATION

Table 1
Table 2

Attachments

APPENDIX A-1
AMENDMENTS TO SWPPP

APPENDIX A-2
INSPECTION LOGS
Turbidity
Water Quality of Desilting Ponds and any Discharges
Storm Water Monitoring and Reporting Form
Erosion and Sedimentation Control Inspection
Post Construction BMPs Inspection

APPENDIX A-3
References Sections from California Storm Water Best Management Practice Handbook. [March, 1993 edition]
Erosion and sediment control Section 3-6 through 3-10
BMPs for Contractor Activities Section 4 -1,3,9,11,13,17, 19 ,21,24,25,26,27
BMPs for Erosion and Sediment Control Section 5-10,25, 37, 40,59,62,67,90

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personal properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

For: **Ferma Corporation – Guadalupe Creek Restoration**

Certifier Thomas M Bylund

Signature of Certifier Thomas M Bylund

Title of Certifier Professional Engineer

Date of Certification 7/17/01

REGISTERED PROFESSIONAL ENGINEER
THOMAS M. BYLUND
No. 22242
EXP 9/30/01
CIVIL
STATE OF CALIFORNIA

PROFESSIONAL CERTIFICATION

This Storm Water Pollution Prevention Plan (SWPPP) was prepared by or under the direct supervision of the undersigned, A Registered Civil Engineer (CE – **22242**) in the State of California. The report contains information generated by the undersigned as well as information from other sources, which the undersigned believes to be true and accurate.

Certifier: Thomas M. Bylund

Signature of Certifier Thomas M. Bylund

Title of Certifier Professional Engineer

Date of Certification 7/17/01

THOMAS M. BYLUND
No. 22242
EXP 9/30/01

FOREWORD

This report has been prepared to comply with National Pollutant Discharge Elimination System (NPDES) as set forth in the "Fact Sheet" issued by the State of California Water Resources Control Board on December 18, 1991. Regulated sites including "landfills" are generally required to develop a Storm Water Pollution Prevention Plan (SWPPP), and A Storm Water Monitoring Sampling and Reporting Program (SWMRP).

This SWPPP was developed for the Guadalupe Creek restoration project from Almaden Expressway to Masson Dam. Copies of this plan will be retained at all times in the offices of the Santa Clara Valley Water District in the city of San Jose. The plan will also be retained onsite as called for by the regulations.

This plan (along with the SWMRP in Appendix A-2) is to be implemented at the construction site until final completion of the project, after which time the provisions of an approved Post-Closure Maintenance Plan will become effective.

GUADALUPE CREEK
STORM WATER POLLUTION PREVENTION PLAN

1.0 GENERAL

This Storm Water Pollution Prevention Plan (SWPPP) is designed to comply with Best Available Technology – Best Control Technology (BAT/BCT) for construction sites, and to be in accordance with Chapter 15 statues administered by the State of California Water Resources Board and the Santa Clara Valley Nonpoint Source Pollution Control Program and other applicable regulations.

2.0 INTENT TO COMPLY

Ferma Corporation has implemented and complied with the program set forth below and intends to correct or submit a schedule for any necessary corrections within 30 days of any non-compliance. In accordance with the NPDES General Permit, Ferma will follow provisions set forth regarding non-compliance. The Regional Board will be "immediately notified" of any instance of non-compliance with the Permit. The notification will identify the type(s) of non-compliance, describe the actions taken, in addition to those necessary to achieve compliance, and include a time schedule indicating when compliance will be achieved. Ferma Corporation also intends to comply with, the effluent standard and prohibitions contained in the General Permit. These are:

- Section 307 (a) of the Clean Water Act
- All Discharges must comply with local ordinances and permits issued to local storm water management agencies including the Regional Water Quality Board.
- All Discharges, which contain a hazardous substance in excess of reportable quantities, contained in 40 CFR 117.2 and 40 CFR 302.4 are prohibited unless a separate NPDES Permit has been issued for such discharges.
- Compliance with water quality standards of the Inland Surface Water Plan, enclosed Bays and Estuaries Plan, California Ocean Plan, or the Basin Plan.
- Prohibition against discharges which cause, or threaten to cause, pollution, contamination, or nuisance.
- Prohibition against discharges which adversely impact human health or the environment.
- Duty to Mitigate: it is the responsibility of the discharger to mitigate permit violations, which may adversely affect human health or the environment.

- Order No. 01-036 Waste Discharge Requirements and Water Quality Certification for Guadalupe Creek Restoration Project.
- Self-Monitoring Program for Order No. 01-036

3.0 AMENDMENTS

Ferma Corporation shall amend this SWPPP if necessary to reflect changes in the physical condition of the site or to enable compliance in any area where this issue of the SWPPP is inadequate. **AMENDMENTS TO SWPPP** will be attached to this SWPPP in Appendix A-1.

4.0 SITE DESCRIPTION

4.1 GENERAL

Guadalupe Creek begins in the Santa Cruz Mountains above Guadalupe Reservoir and flows north to the Santa Clara Valley where the creek meets with Alamitos Creek at Almaden Lake, to form the Guadalupe River. The entire drainage basin of Guadalupe Creek is 15.2 square miles. The upper 6 square miles of the drainage basin are regulated by a dam on the Guadalupe Reservoir. The mountainous portion of the drainage basin is largely undeveloped. The lower portion in the Santa Clara Valley has residential areas. Masson Dam is located on the lower section of the creek below Camden Avenue, and is the upper limit of the Project area. This dam is a small diversion dam operated during the summer months to provide water to the Los Capitancillos percolation ponds.

The Project area is located within the City of San Jose, California. The project area is approximately 8,700 feet in length along an urbanized section of lower Guadalupe Creek between Masson Dam (station 98+00) and Almaden Expressway (station 11+00). The Meridian Bridge crosses the project site at station 54+00. A concrete wall exists on the south side of the creek from this bridge westward for about 1,500 feet. A levee bounds the north side of the creek to protect the percolation ponds and the residential areas. The south side of the creek is bordered by Coleman Road from Almaden Expressway to station 78+00 and by a low berm for most of the remaining reach from station 80+00 to 92+00.

4.2 TOPOGRAPHY

The drainage basin of Guadalupe Creek begins in the Santa Cruz Mountains. The highest point in the basin is 3,486 feet NGVD 1929 at the summit of Mt. Umunhum. The elevation at its confluence with Alamitos Creek is about 180 feet. Guadalupe Creek flows from the southwest to the northeast through the project area. The creek enters the valley floor at an elevation of approximately 240.4 feet at station 1270. By the time it approaches the lower reach of the project at station 100 it has dropped to an elevation of approximately 183.7 feet. Throughout the length of the project, 1.6 miles, the creek drops 56.7 feet in elevation.

The creek valley floor is mostly flat, sloping to the northeast toward South San Francisco Bay. In the past the valley was primarily used for farming. Current land uses in the project area are primarily residential with subdivisions containing both single and multiple family dwellings. There has been mercury mining in this area in the past.

4.3 EXISTING SOIL DATA

Soils through which the Guadalupe Creek channel runs generally consist of silty and/or sandy clays of varying plasticity with abundant coarse gravel in some locations. Depths of these upper soils range from 14 to 18 feet. Hard, or moderately cemented subsoil horizons are present in some areas. The project activity is located primarily in this upper depth range. Soil information is provided in the Engineers Report Section 3.2 and in a series of baseline maps included in that report. A copy of this report is kept on site.

4.4 CONSTRUCTION SITE SIZE AND PERCENT IMPERVIOUS

The Guadalupe Creek construction site covers an area of approximately 125 acres (9,900,000 sq. ft) over the 1.6-mile length of the project. Almost the entire project lies within the banks of the creek itself. The project is not altering the amount of pervious surface area.

The project consists of restoration improvements from Almaden Expressway to Masson Dam in the city of San Jose, and is within the boundaries of the North Central Zone of the Santa Clara Valley Water District.

The major items of work include:

- Clearing and grubbing.
- Channel and floodplain excavation, testing, disposal, and/or re-use on-site of materials.
- Installation of in-stream woody material.
- Installation of irrigation system.
- Planting of riparian vegetation and shaded riverine aquatic cover.
- Three-year maintenance period.
- Other miscellaneous construction work and items necessary to satisfactorily complete the work.

5.0 POTENTIAL SOURCE OF POLLUTANTS IN STORM WATER DISCHARGE

5.1 History of toxic material at the construction site.

The entire drainage basin of Guadalupe Creek is 15.2 square miles, of which the Guadalupe Reservoir regulates the upper 6 square miles. The project site is a 1.6-mile section of the creek in a residential area, while the upper portion of the watershed in largely undeveloped. A landfill is located near the creek upstream of the project area. Prior to suburban development, the project area was used for orchards. Thus, low levels of pesticides have been detected in bank soils as described in the Soils Management Plan. As such, it is reasonable to assume that various pollutants have washed through the site in its normal function as a creek. Such pollutants could include but not necessarily be limited to trash of varying composition, vegetation debris, soil sediments, petrochemicals such as motor oil, fuels, asphalt residues, fertilizers, pesticides, metal residues, household chemical products, and industrial chemicals.

Mercury mining was conducted in the upper Guadalupe Creek watershed, beginning prior to construction of Guadalupe Reservoir. Mine wastes were discharged to the creek above the project area. Erosion of soils containing mercury in the former mining area may also contribute mercury to the creek. Soil and sediment sampling upstream and within the project area indicate that elevated levels of mercury are present at this site (Tetra Tech, 2000). Total mercury in forty (40) bank soil samples collected within the project area in June 2000 ranged from 0.72 mg/kg to 69 mg/kg from depths of 0.5 to 10 ft. Sixteen (16) of the forty (40) samples exceeded the TTLC of 20 mg/kg. Four additional bank soil samples along the channel within the project area were collected in September 2000, which had total mercury ranging from 6.0 to 27.3 mg/kg. One of the four samples from the project area exceeded the TTLC of 20 mg/kg. Sediment samples collected in June and September ranged from 0.35 to 31.7 mg/kg on a dry weight basis. One of the samples exceeded the TTLC criteria of 20 mg/kg.

5.2 List Of Pollutants Likely To Be Present In Storm Water Discharge

Excluding unknown and/or unanticipated pollutants that may wash into and through the project site, i.e. flow down Guadalupe Creek from upstream, or enter from tributary drains, mercury, traces of other metals, petroleum hydrocarbons, and pesticides may be present. Pesticides detected in soil samples from the project area include low levels of delta-BHC, heptachlor epoxide, 4,4-DDE, and 4,4-DDT (Tetra Tech, 2001).

Other potential pollutants may be generated during the construction process or will be used during the operations. Pollutants that may be used or result from construction activities include:

Particulates from soil (mercury, other metals)
Concrete dust
Wood wastes (saw dust, lumber scraps)
Vegetative wastes (weeds, leaves, and branches)
Motor oil
Fuel (diesel, gasoline)
Grease
Concrete form release agent
Herbicides (Rodeo).

Since these materials will be used on-site and during the course of the project, there is a potential that some of these materials may be present in storm water discharge in significant quantities. Table 1 lists these potential pollutants and the planned control measures.

6.0 CONTROL PRACTICE TO REDUCE POLLUTANTS IN STORM WATER DISCHARGE

6.1 Responsible Individual

The responsible individual for implementing and making any necessary revisions to this SWPPP is:

Mr. Mark Abu-Tair, Project Manager
Ferma Corporation
1265 Montecito Avenue, #200
Mountain View, CA 94043

Company personnel assigned to implementing policy and procedures associated with this document will be under his direction. The Company will also update this responsibility and chain-of-command, when necessary, and notify the Regional Water Quality Control Board.

6.2 Best Management Practices

The purpose of the Best Management Practices (BMPs) is to provide a guide for FERMA CORPORATION on developing storm water management programs to reduce the discharge of potential pollutants. BMP is defined as any program, technology, process, site criteria, operating method, measure or device that controls, prevents, removes or reduces pollution. In recent years, the focus on storm water quality has become a sensitive issue due to the effects of human activities on our bays, rivers, creeks, lakes and other bodies of water. Storm water carries natural pollutants and contaminants caused by human activities that can potentially destroy or disturb aquatic life and recreational use when discharged into a body of water.

Feasible BMPs to control soil erosion that will be implemented for Guadalupe Creek are outlined in outlined in Section 2.4.1.5 of the EIR. These control measures are discussed in Section 6.2.1 of this SWPPP, and will be employed by Ferma Corporation to control the identified pollutants. Additional measures are discussed in Blueprint for a Clean Bay, published by California Storm Water Best Management Practice Handbook and Bay Area Stormwater Management Agencies Association, (BASMAA) and the Handbook. The following sections from the California Storm Water Best Management Practice Handbook are included by reference in this SWPPP (See Appendix A-3):

California Storm Water Best Management Practice Handbook. [March, 1993 edition]

Erosion and Sediment Control	Section 3-6 through 3-10
BMPs for Contractor Activities	Section 4 -1,3,9,11,13,17, 19 ,21,24,25,26,27
BMPs for Erosion and Sediment Control	Section 5-10,25,5-37,40,59,62,67,90

6.2.1 Drainage/Erosion Control Measures and Implementation

The construction work will be conducted mostly in the dry season, although occasional rains may occur. No excavation or disturbance of the creek channel will be conducted following October 15, 2001; this date can be extended with approval of the Department of Fish and Game (Notification Number R3-2000-0982). The creek has been dewatered prior to the start of the project, except for several deep pools that will be discussed later in this plan.

Specific BMPs during construction will include the following:

- Use of orange net fencing to identify areas that require clearing and grading from areas that will not be disturbed.

- Berms and hay bales or other similar measures will be placed along the channel bank to prevent sediment from reaching the active channel.

- Berms about 1-foot high will be installed on the creek side and at the downstream end to prevent soil from entering the creek. Hay bales will be installed in swales at the downstream end of the cleared areas to prevent sediment from reaching the creek. Cleared surfaces along the channel bank will be spread with hay prior to revegetation such as by hydroseeding. Any sediment trapped behind the hay bales will be removed and placed in the soil stockpiles.

- Silt fences or staked hay bales will be installed around the soil stockpiles to divert runoff from the channel banks. Soil stockpiles will be graded with stable slopes and covered or watered to prevent erosion. The piles will be located in designated stockpile areas away from the channel bank and out of the active channel.

- Install rock protection and groins on pertinent sections of creek banks as soon as practicable after excavation and grading in that area.

During the construction period, the following specific runoff control measures will be implemented.

- When possible, water from sources other than the creek itself such as the two storm drain outlets, will be collected by pumping or diverting through temporary PVC pipes to an area beyond the construction activities to a desilting pond. The pond construction is described further below.

- A desilting pond will be installed at the downstream end of the project area at Almaden Expressway Bridge (See sheet G-1). The pond will be constructed using hay bales wrapped with filter fabric, a silt fence, and a dam of streambed gravel. Hay bales will be placed as energy dissipators below the outlet point. The water will be desilted before releasing it outside the project limit [i.e., downstream of the dried Guadalupe Creek].

- Turbidity measurements will be taken daily when discharging water from the desilting pond to the creek, which is likely only at the one by Almaden Expressway Bridge. The discharged water must have turbidity less than 55 NTUs based on a turbidity in the background creek of less than 50 NTU. If the background creek water has turbidity above 50 NTU, the increase can be only up to 10 percent of the background water, as stated in the RWQCB Order 01-036. Ferma personnel will measure turbidity using a portable turbidity meter on a daily basis and the data will be recorded on a monitoring log (See Appendix A). In addition, the decant water must have a pH between 6.5 and 8.5, settleable matter less than 1.0 ml/l, and dissolved sulfide <0.1 mg/l per RWQCB Order 01-036. A water sample for these parameters will be measured one day after the pond is first filled to make sure that these criteria can be met. The settleable matter and dissolved sulfide will be measured by a DHS-approved laboratory. The pH will be measured using a portable meter by Ferma personnel. The data will be recorded in the monitoring log (See Appendix A-2). Additional measurements of these parameters will be made when water from a new source or location is pumped to this pond prior to allowing discharge to the downstream creek.

- The increase in the Turbidity is not to exceed 10 percent [taken immediately downstream] of any watercourse flowing past construction site. See Section 15.01 of the project specifications.

- For cases of in which the receiving water body is a dry creek bed, water in excess of 60 JTU shall not be discharged from Ferma's operation.

- Additional desilting ponds will be installed along the remainder of the creek (e.g., as shown on Sheet G-5, G-11, and G-12). These ponds will be constructed of permeable filter fabric wrapped around hay bales and silt fences. The water will be pumped from these ponds to designated bermed, flat staging areas such as shown on Sheet G-6 and G-13. Any silt remaining in these areas after dewatering will be transported to the soil stockpile and properly disposed.

- The SCVWD will be notified 2 days in advance of dewatering the creek channel prior to working in a given area. Water remaining in the creek in areas with deep pools and groundwater seepage such as below Meridian Bridge will be dewatered by pumping to designated flat staging areas such as shown on Sheet G-6 and G-13 or to desilting ponds.

- Only areas that can be entirely completed prior to October 15th for stream areas and December 31st for outside stream areas will be disturbed with the construction activities. This includes all hydroseeding, planting, rock slope protection, low flow channel and creek bottom construction. The October 15th date can be extended with the approval of the Department of Fish and Game. [Dates are based on contract duration and not on preliminary schedule.] Areas that will be disturbed after October 15 will be covered with spread straw immediately after clearing so that runoff will not be generated from areas of unprotected soils. Hydroseeding will be conducted also to provide additional protection from erosion.

- Areas of on-site material stockpiles will be protected against erosion/sediment with the use of silt fences or straw coil logs and/or earth berms. Stockpiles will be watered or covered with plastic sheeting until after completion of testing. Stockpiled materials, which were determined to be hazardous, will be removed prior to December 31st. The remaining non-hazardous soils will be compacted on site into stable landforms as shown on the plans. The regraded surfaces will be covered with spread straw and hydroseeded to prevent erosion and sediment in the runoff.

- The intent of the berms and hay bales around the exposed soils, stockpiles, and construction material storage areas is to prevent stormwater runoff from entering these areas. Should a storm event cause this to occur, the breach in the berm will be immediately repaired. The water will be retained within the berm until determining if it has become contaminated with construction materials. If no contamination is present other than silting, the water will be pumped to the designated staging area or to a desilting pond and handled in the same manner as described above. The District Engineer will be notified immediately of any such incidents and the decisions and measures taken to remedy the situation.

- All access roads and storage areas for heavy equipment will be stabilized, with the use of gravel, as needed to prevent tracking of mud or dirt onto city streets. City streets, sidewalks and any public area will be kept clean with the use of street sweepers or handwork as needed to protect the safety of the public. BMPs listed in Section 5.4 of the EIR will be implemented.

6.2.2 Equipment Storage and Maintenance Area

Construction activities will require the use of earth moving equipment within the creek channel. The use of heavy equipment always poses a potential for fuel, oil and other hydrocarbon pollutants from engine leakage, fueling spills, overfilled tanks, waste oil disposal, and equipment maintenance. These pollutants, some even at low concentrations, can threaten aquatic life and affect the recreational use of San Francisco Bay. The following measures will be taken to prevent such pollutants from being discharged to the creek.

- Equipment storage and maintenance sites will be located outside of the work area. All storage yards and work areas outside of the creek will be treated so as to prevent erosion and sediment with the use of silt fences and/or earth berms. All storage yards and work areas outside of the creek will be restored to their pre-construction state, graded and protected with hydroseeding as needed by December 31st to prevent erosion. [Dates are based on contract duration and not on preliminary schedule.]

- Good housekeeping will be implemented in all storage and equipment maintenance yards.

- All equipment will be well maintained and inspected daily for leaks. Equipment fueling will be conducted in the maintenance yards when possible, but in no case within 100-feet from the top-of-bank. When fueling must take place within the work area, it will be parked over absorbent materials or drip pans. All fueling will be completed with quickly accessible spill containment and clean up kits.

- Major equipment repairs, maintenance or cleaning will take place off-site. Replacement of engine fluids, when needed, will be collected through drip pans and disposed of properly off-site. Replacement of fluids will not be done within 100-feet from the top-of-bank.

6.2.3 Maintenance of Dumpsters and Portable Toilets

Open, damaged or misused Dumpsters and poorly maintained portable toilets can become a source of pollution. Natural water bodies can become polluted with nutrients, bacteria and oxygen demanding substances from these devices. All Dumpsters and portable toilets will be regularly maintained.

6.2.4 Disposal of Cleared Vegetation

Vegetation resulting from clearing, grading, tree trimming and other construction activities must never be disposed within the work area. This could cause clogging, and the organic material may require large amounts of oxygen to decompose.

All such material will be removed from the work area as it is generated, and disposed of off-site. Areas where such vegetation is stockpiled for processing and loaded for off hauling, will be cleaned, graded and covered with spread straw after clearing. These areas will also be kept moist during working hours to prevent dust from becoming a problem. Hydroseeding will be done, where needed, prior to October 15th to prevent erosion during the rainy season.

6.2.5 Post-Construction Storm Water Management

Post-construction storm water management refers to control measures taken to prevent storm water pollution associated with post-construction activities at the affected site. The post-construction measures and monitoring will be implemented as described in the separate Mitigation and Monitoring Program (MMP) for the project. Erosion control measures (e.g., silt fences, filter fabric, hay bales) will be removed and legally disposed. The dam at Almaden Expressway and any sediment accumulated there will be removed prior to heavy rains, but no later than October 15, and the materials legally disposed.

6.2.6 Employee Training

All personnel working onsite during construction shall be trained or supervised under Ferma's qualified Foremen or Superintendent with extensive experience in storm water management. Proper inspection of the project during the construction phase should be done by Ferma's qualified Foremen or Superintendent to assure compliance with project plans and specifications. Ferma supervisory personnel working on the project have experience in SCVWD projects and use of Best Management Practices (BMPs).

All Ferma's employees working on the project site have training and experience under the corporate IIPP, site-specific training as per the project HSP, and Best Management Practices (BMP).

7.0 NON-STORM WATER MANAGEMENT

7.1 Dust Control

Earth work, clearing, excavation, filling, rock placement, material stockpiling and storage are all activities that can cause dust. Dust control measures must be an ongoing procedure due to the proximity of homes and to protect workers. All areas subject to such activities and the access and levee roads will be watered prior to clearing or excavating activities and as frequently as necessary during operations to minimize dust, but no less than twice a day. Soil stockpiles will also be watered daily or covered to prevent wind erosion. Additional dust control measures will be implemented during operations, as described in Section 5.4.7 of the EIR. Dust monitoring will be conducted as described in the HSP, and used to determine the need for watering.

7.2 Site Dewatering Discharge

Construction activities can cause site surface water to become sediment laden. Construction site dewatering, if pumping is utilized, can also cause sediment at both the pump end and the discharge end.

To avoid this, the work area was dewatered before work in the project area started, except for several deep pools and areas with groundwater seepage. The SCVWD will be notified 2 days in advance of dewatering the creek channel in these areas. Water remaining in the creek in these areas will be dewatered by pumping to designated flat staging areas such as shown on Sheet G-6 and G-13. The water will be allowed to percolate back into the ground. Water may also be pumped to desilting ponds. If so, the water will be allowed to settle prior to discharging to the creek. The water will be tested as described in Section 6.2.1 prior to discharge. Following the dewatering operation, any sediment in the desilting basin will be moved to the soil stockpiles for required testing and appropriate disposal.

Example of Dewatering: The water shown on Drawing G-7 is caused by underground water seepage into a low spot in the streambed. The water will be pumped to the staging area on sheet G-7 or to other nearby staging areas to allow percolation, as discussed above or to a desilting pond or to percolation pond # 5. The water in the desilting pond will be filtered before allowing discharge into the creek downstream at Almaden Expressway Bridge. (See Control of Water Plan.) The low spot will be filled in with streambed material to allow the use of heavy equipment to complete work as described in the project specifications.

8.0 WASTE MANAGEMENT AND DISPOSAL

All site and construction material waste, generated during the project, including on-site excess soil, concrete, rock, vegetation, and any other material, shall be disposed in compliance with Federal, State, and local laws, regulations, and ordinances.

Temporary waste storage locations have been designated in the contractor staging areas, for example see Sheet G-7, G-9. Waste will be properly stored in Waste Management containers, or temporary stockpiles in the designated areas and covered.

Excavated soil will be moved and placed in approved soil stockpile areas, included in the Exclusion Zone, as described in the Site Preparation and Earthwork Plan. Areas of on-site material stockpiles will be protected against erosion/sediment with the use of silt fences and/or earth berms. Stockpiles will be watered or covered with plastic sheeting until after completion of testing to determine suitability for onsite reuse according to the Soil Management Plan. Stockpiled materials, which are determined to be hazardous, will be removed prior to December 31st. The remaining non-hazardous soils will be compacted on site into stable landforms as shown on the plans. The regraded surfaces will be covered with spread straw and hydroseeded to prevent erosion and sediment in the runoff.

9.0 MAINTENANCE , INSPECTION AND REPAIR

Monitoring data from the discharge monitoring of decant water and stormwater from the desilting ponds, described above in Section 6.2.1, will be recorded by Ferma personnel on the Storm Water Monitoring Sampling and Reporting Form (Appendix A-2). These forms will be available on site.

All erosion/sediment control measures will be inspected daily to ensure they are in design condition by Ferma Foreman or Supervisors. The inspection will be documented in the Inspection Log (See Appendix A-2). Table 2 lists the control measures, the planned frequency of inspection, and maintenance and repair measures. Extra materials will be stored on site [i.e. silt fence, hay bales, gravel, etc.] to enable necessary repairs to be performed as soon as possible. All extra materials will be removed from the project area prior to December 31st. Additionally, all erosion/sediment control measures will be inspected before and after storm events to evaluate the effectiveness of the SWPPP measures. Inspections will be documented on the daily inspection log included in Appendix A-2 (See EXHIBIT A-8). All inspection records will be kept for at least 3 years. The daily inspection log has been developed based on the following:

- Worksheet 5 BMPs for Erosion and Sedimentation Control. Page 2-19 of California Storm Water Best Management Practice Handbook. [March, 1993 edition]

- Worksheet 6 BMPs for Post Construction BMPs. Page 2-21 of California

Storm Water Best Management Practice Handbook. [March, 1993 edition]

The access roads and construction entrances at Almaden Expressway and Singletree Way will be inspected and maintained per BMP section 5 ESC24 Page 5-37.

10.0 CONTRACTORS & SUB-CONTRACTORS

Ferma Corporation is the prime contractor. Major subcontractors include:

- **KCI, Landscaping**
- **Killroy**
- **Oilivera Fence**

11.0 PUBLIC INFORMATION

This SWPPP shall be available to the public for review during normal office hours at the office of the Site Engineer in charge of implementation of this SWPPP. A copy will also be available at the site, in the prime contractor's office.

TABLE 1

Guadalupe Creek Restoration Project
Construction Phase
Pollutant Sources and Proposed Control Measures

Source Area or Activity	Potential Pollutant	Control Measures	Plan Sheet
CONSTRUCTION PHASES			
Concrete Truck Washout Area	Acidity/Alkaline Sediment	Washout Pit/ Legal Disposal	G-2,7,9
Construction Materials, Loading, Unloading, and Placing	Rock, Soil Sediment, Concrete, Asphalt, Curing Compounds and form oil, Saw Dust	Earthen Berms, Secondary Containment, Impervious Covers, and Good Housekeeping	G-1 through G-14
Vehicle and Equipment Storage, Maintenance Areas	Oil & Grease, Coolants, Sediments	Earthen Berms, Drip Pans, Absorbent Materials	G-1 through G-14
Waste Storage Areas	Vegetation Debris, Concrete Rubble, Rock, Soil Sediment	Earthen Berms, Secondary Containment, Covered Dumpsters, Impervious Covers, and Dust Control	G-1,4 G-7,9 G-13 G-14
Project Grading	Sediment	Silt Fences, Straw Bales, Dikes Earth Dikes, Silt Basins, Gravel Construction Entrance, Hydroseeding, and Straw	G-1 through G-14
Small Quantities of partially Used Material Throughout Site during Construction	All New Materials	Employee Training	
POST CONSTRUCTION PHASE			
Yards	Fertilizers, Pesticides Herbicides, fecal coliform	Not Within Scope of work	
Streets and Parking Lots	Runoff Volume, Oil & Grease	Not Within Scope of work	
Graded Areas	Sediment	Slope per Plans & Specifications	G-1 Through G-14

TABLE 2

Guadalupe Creek Restoration Project
Maintenance, Inspection, and Repair of Controls

Controls[see plans for locations]	Inspection Frequency	Maintenance/Repair Measures
Soil Stabilization, Graded Surfaces	Daily & after & before storm	Regrade & reapply seed, straw and tack as necessary
Silt Fence	Daily & after & before storm	Replace torn sections, remove piled Up debris, re-key bottom of fences
Hay Bales	Daily & after & before storm	replace hay bales as necessary
Diversion Berms	Daily & after & before storm	Regrade any eroded areas on berm upstream face,remove accumulated debris
Desilting Ponds	Daily & after & before storm	Remove accumulated sediment as necessary, repair erosion damage.
Construction site entrance At Almaden Expwy & At Singletree Way	Daily	Regrade & reapply gravel

APPENDIX A-1

AMENDMENTS TO SWPPP

Title of Amendment	Date Approved by SCVWD	Accepted for Ferma by (Name/Date)

APPENDIX A-2

GUADALUPE CREEK
INSPECTION LOG

Guadalupe Creek Restoration Project
Erosion and Sedimentation Control Inspection

Controls	Inspector Name/Date	Inspection Results	Work Done
Soil Stabilization, Graded Surfaces			
Silt Fence			
Hay Bales			
Diversion Berms			
Desilting Ponds			
Construction Site Entrance At Almaden Expwy			
At Singletree Way			

GUADALUPE CREEK INSPECTION LOG

Guadalupe Creek Restoration Project
Post Construction BMPs Inspection

Controls	Inspector Name/Date	Inspection Results	Work Done/By
Storage Yards		(Should be restored per specifications)	
Staging Areas		(Should be restored per specifications)	
Soil Stockpile Areas		(Should be restored per specifications)	
Desilting Basins		(Should be no silt piles remaining)	
Construction Site Entrance At Almaden Expwy		(Should be restored per specifications)	
At Singletree Way		(Should be restored per specifications)	

GUADALUPE CREEK

INSPECTION LOG

Desilting Pond Turbidity

		Turbidity in NTU of		
Date	Basin Location	Background Creek	Pondwater	Pond Discharge

GUADALUPE CREEK

INSPECTION LOG

Desilting Pond Water Quality

Date Sampled	pH	Turbidity	Settleable Solids,ml/l	Dissolved Sulfide, mg/l

GUADALUPE CREEK

INSPECTION LOG

Storm Water Monitoring Sampling and Reporting Form

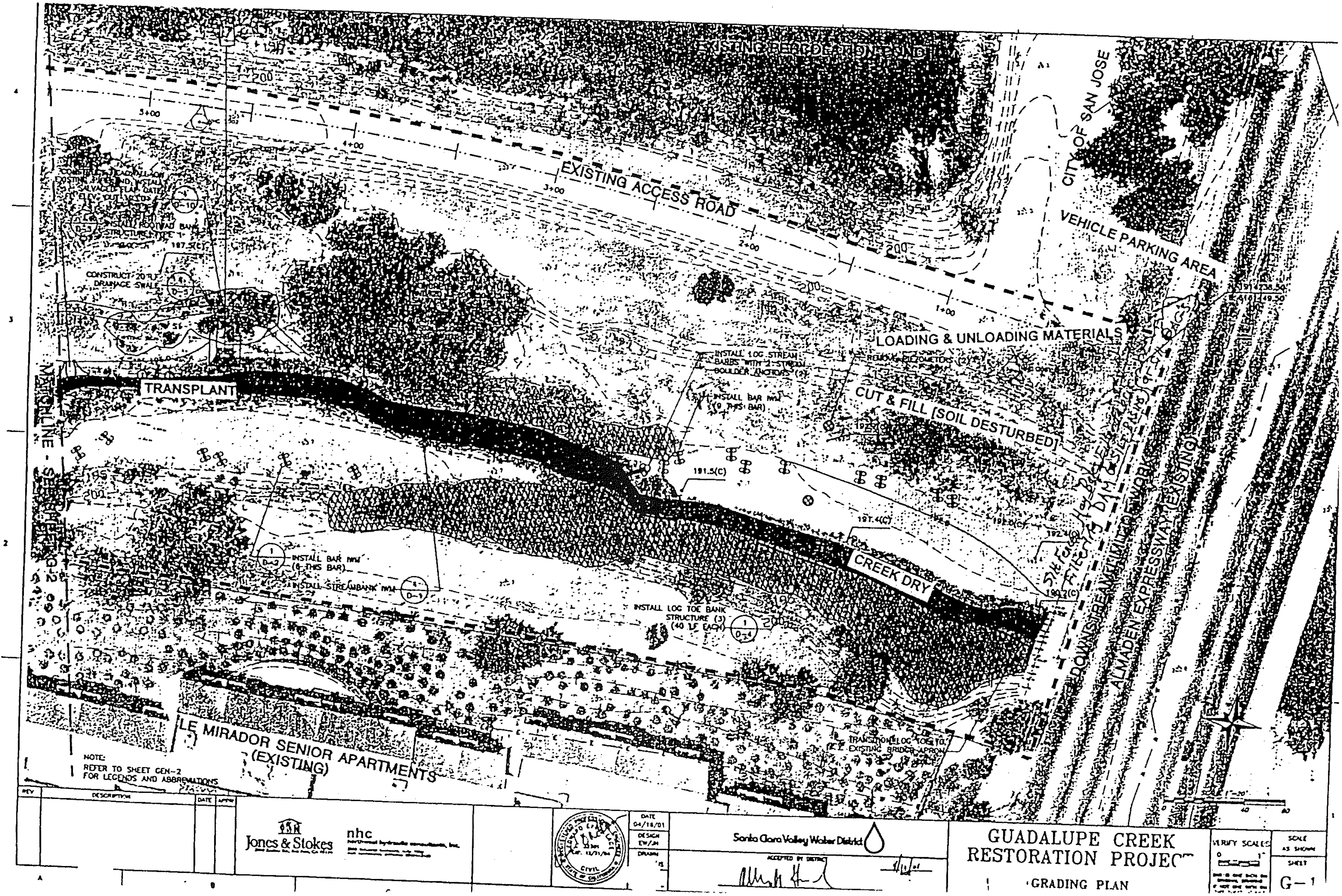
Date	Weather	Rainfall, in	Observed Runoff	Turbidity of Runoff	Observed Debris

APPENDIX A-3

BMPS INCLUDED BY REFERENCE

California Storm Water Best Management Practice Handbook. [March, 1993 edition]

Erosion and sediment control	Section 3-6 through 3-10
BMPs for Contractor Activities	Section 4 -1,3,9,11,13,17, 19 ,21,24,25,26,27
BMPs for Erosion and sediment control	Section 5-10,25,5-37,40,59,62,67,90


EXISTING ACCESS ROAD
VEHICLE PARKING AREA
CITY OF SAN JOSE
LOADING & UNLOADING MATERIALS
CUT & FILL [SOIL DESTURBED]
DOWNSTREAM LIMIT OF WORK
ALMADEN EXPRESSWAY (EXISTING)
CREEK DRY
TRANSPLANT
LE MIRADOR SENIOR APARTMENTS (EXISTING)
MATCHLINE - SEE SHEET G-2
INSTALL LOG STREAM BARBS WITH 2-STREAM BOULDER ANCHORS (2)
INSTALL BAR NWI (9 THIS BAR)
INSTALL BAR NWI (6 THIS BAR)
INSTALL STREAMBANK NWI
INSTALL LOG TOE BANK STRUCTURE (3) (40 LF EACH)
TRANSITION LOG TOE TO EXISTING BRIDGE APRON
CONSTRUCT 20 LF DRAINAGE SWALE
INSTALL ROOTWAD BANK STRUCTURE
191.5(C)
191.4(C)
192.4(C)
190.2(C)
187.5(C)
1+00
2+00
3+00
4+00
5+00
200
195

NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc
northwest hydraulic consultants, inc.

DATE	04/18/01
DESIGN	EW/JH
DRAWN	JS

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

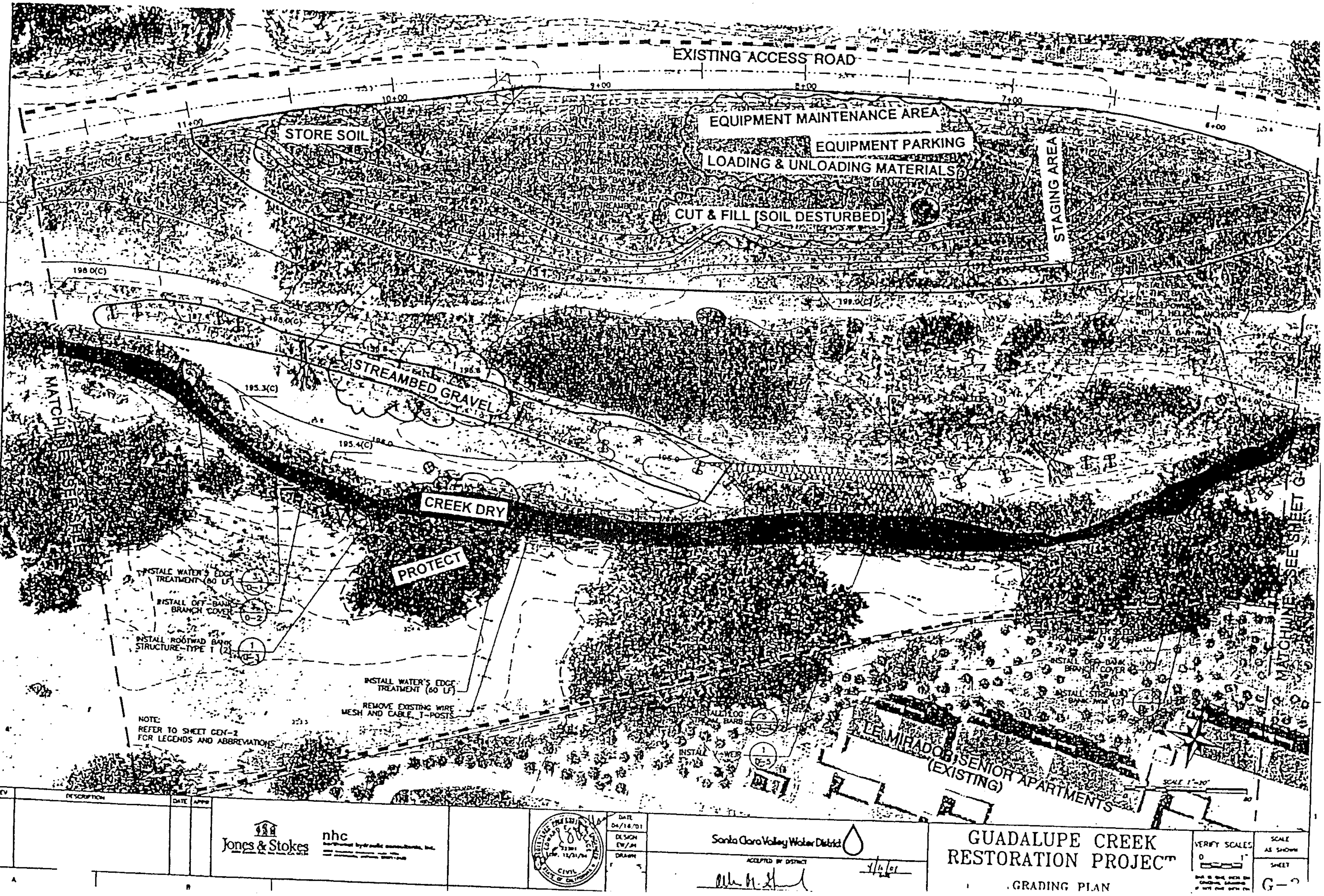
4/1/01

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"

SCALE	AS SHOWN
SHEET	G-1


EXISTING ACCESS ROAD
11+00
10+00
9+00
8+00
7+00
6+00
STORE SOIL
EQUIPMENT MAINTENANCE AREA
EQUIPMENT PARKING
LOADING & UNLOADING MATERIALS
CUT & FILL [SOIL DESTURBED]
STAGING AREA
198.0(C)
195.3(C)
195.4(C)
STREAMBED GRAVEL
CREEK DRY
PROTECT
MATCHLINE SEE SHEET G
INSTALL WATER'S EDGE TREATMENT (60 LF)
INSTALL OFF-BANK BRANCH COVER
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 (2)
INSTALL WATER'S EDGE TREATMENT (60 LF)
REMOVE EXISTING WIRE MESH AND CABLE, T-POSTS
INSTALL LOG STREAM BARB
INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM BANK
LE MIRADOR SENIOR APARTMENTS (EXISTING)
SCALE 1"=20'

NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc
northwest hydraulic consultants, inc.

DATE 04/14/01
DESIGN EW/JH
DRAWN

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

7/6/01

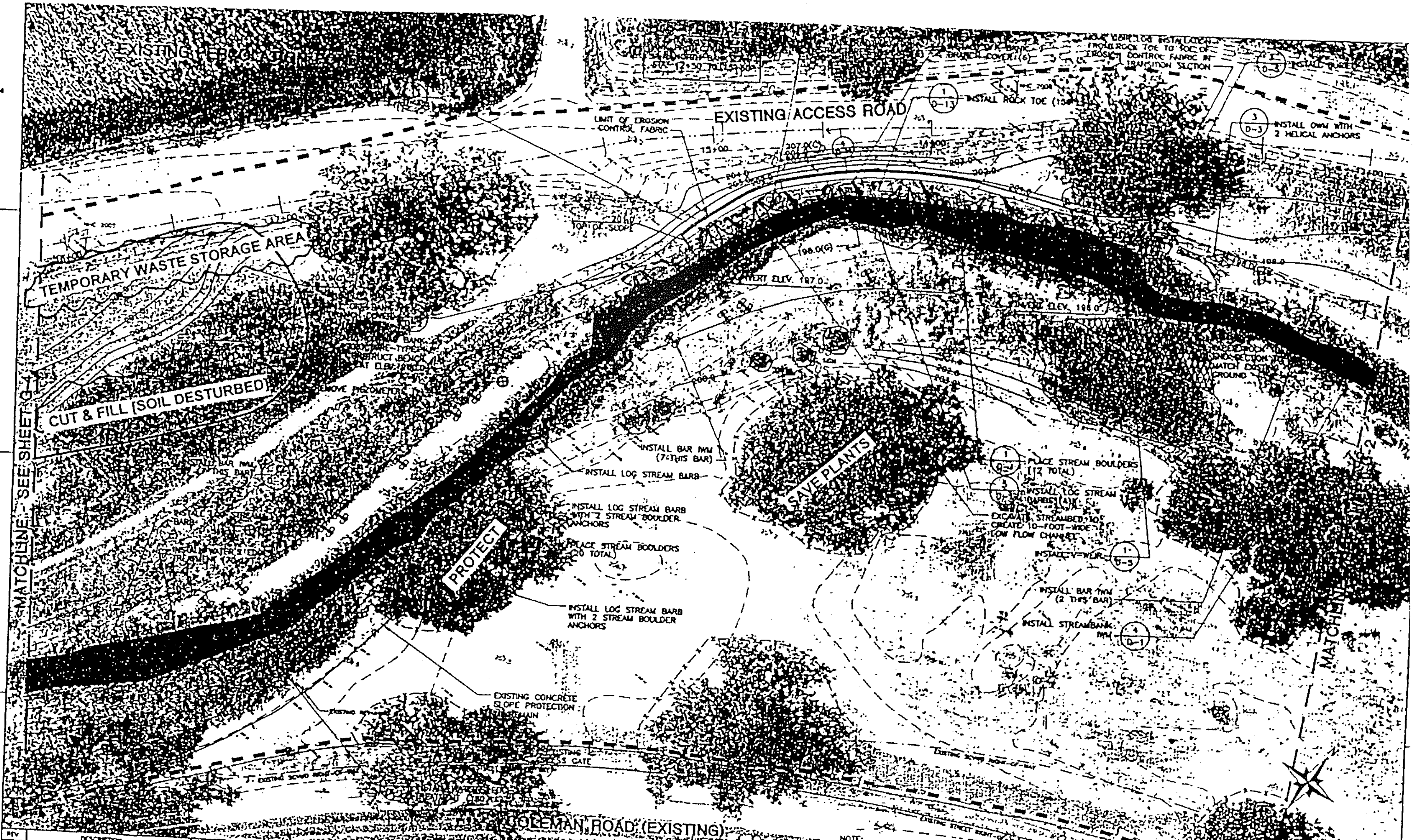
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-2


EXISTING ACCESS ROAD
LIMIT OF EROSION CONTROL FABRIC
INSTALL ROCK TOE
INSTALL OWM WITH 2 HELICAL ANCHORS
TOP OF SLOPE
TEMPORARY WASTE STORAGE AREA
CUT & FILL [SOIL DESTURBED]
MATCHLINE - SEE SHEET G
INSTALL BAR IWM (7 THIS BAR)
INSTALL LOG STREAM BARB
INSTALL LOG STREAM BARB WITH 2 STREAM BOULDER ANCHORS
PLACE STREAM BOULDERS
SAVE PLANTS
PROTECT
PLACE STREAM BOULDERS (12 TOTAL)
INSTALL LOG STREAM BARBS
EXCAVATE STREAMBED TO CREATE 10-FOOT-WIDE LOW FLOW CHANNEL
INSTALL V-WEIR
INSTALL BAR IWM (2 THIS BAR)
INSTALL STREAMBANK IWM
INVERT ELEV. 187.0
INVERT ELEV. 198.0
EXISTING CONCRETE SLOPE PROTECTION TO REMAIN
EXISTING STREET RIGHT-OF-WAY
COLEMAN ROAD (EXISTING)
MATCHLINE

NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc northwest hydraulic consultants, inc.

DATE 04/18/01

DESIGN TW/JH

DRAWN

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

Ulm H. H

7/11/01

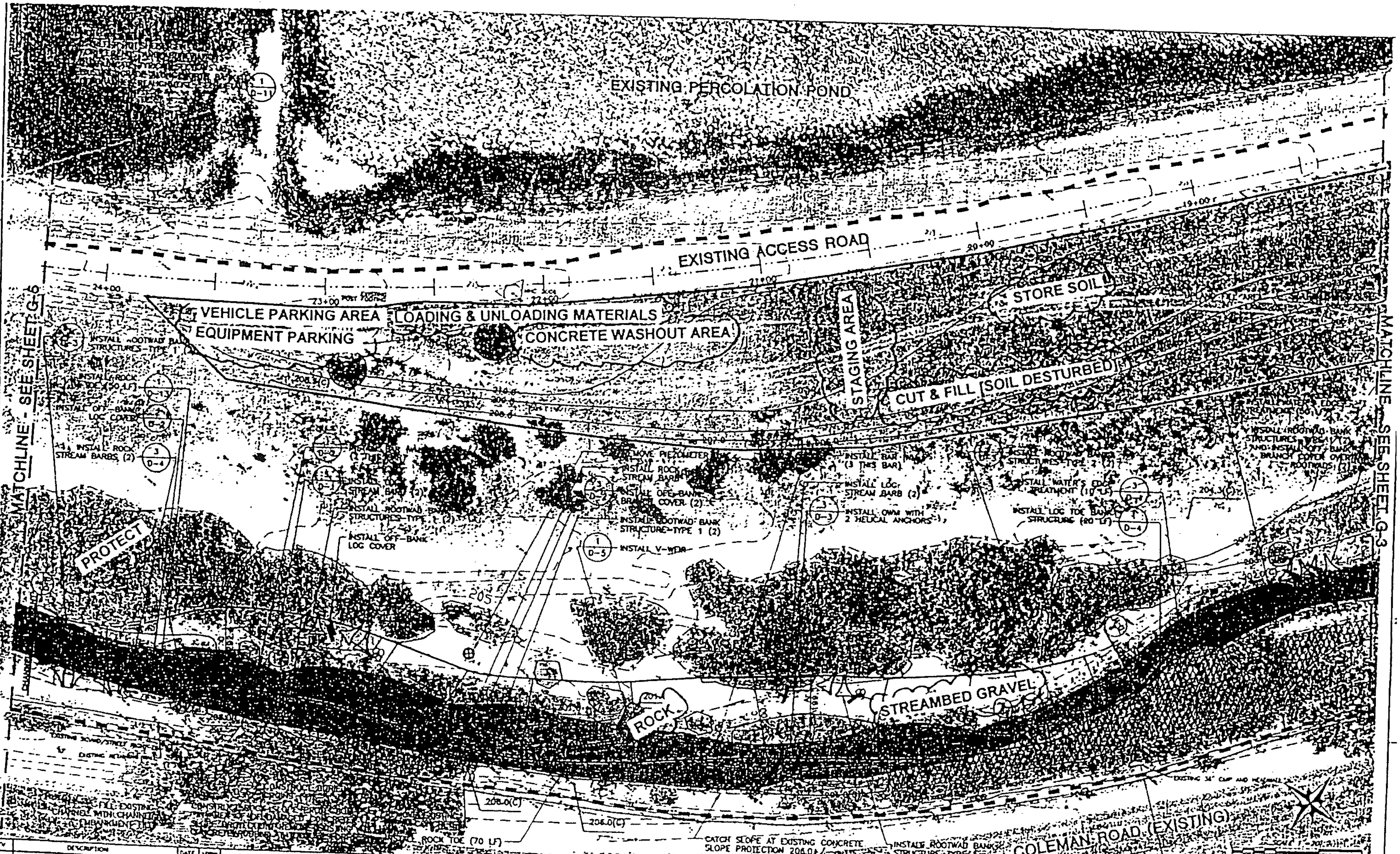
GUADALUPE CREEK
RESTORATION PROJEC

GRADING PLAN

VERIFY SCALES
0 1"

SCALE AS SHOWN

SHEET G-


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET G-6
MATCHLINE - SEE SHEET G-3
24+00
23+00
22+00
21+00
20+00
19+00
VEHICLE PARKING AREA
EQUIPMENT PARKING
LOADING & UNLOADING MATERIALS
CONCRETE WASHOUT AREA
STAGING AREA
STORE SOIL
CUT & FILL [SOIL DESTURBED]
PROTECT
ROCK
STREAMBED GRAVEL
COLEMAN ROAD (EXISTING)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL ROCK TOE (50 LF)
INSTALL OFF-BANK LOG COVER
INSTALL ROCK STREAM BARBS (2)
INSTALL LOG STREAM BARB (2)
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL OFF-BANK LOG COVER
REMOVE PIEZOMETER
INSTALL ROCK STREAM BARB
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1 (2)
INSTALL V-WEIR
INSTALL BAR (3 THIS BAR)
INSTALL LOG STREAM BARB (2)
INSTALL OWM WITH 2 HELICAL ANCHORS
INSTALL ROOTWAD BANK STRUCTURES-TYPE 2 (2)
INSTALL WATER'S EDGE TREATMENT (10 LF)
INSTALL LOG TOE BANK STRUCTURE (20 LF)
INSTALL ROOTWAD BANK STRUCTURES AND INSTALL OFF-BANK BRANCH COVER OVER ROOTWADS (3)
205
206.0(C)
206.0(C)
204.3(C)
ROCK TOE (70 LF)
CATCH SLOPE AT EXISTING CONCRETE SLOPE PROTECTION 206.0
INSTALL ROOTWAD BANK STRUCTURE-TYPE

REV	DESCRIPTION	DATE	APPR

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nhc

DATE 04/16/01

DESIGN EW/JH

DRAWN

Santa Clara Valley Water District

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Ulrich Gund 4/1/01

GUADALUPE CREEK RESTORATION PROJECT

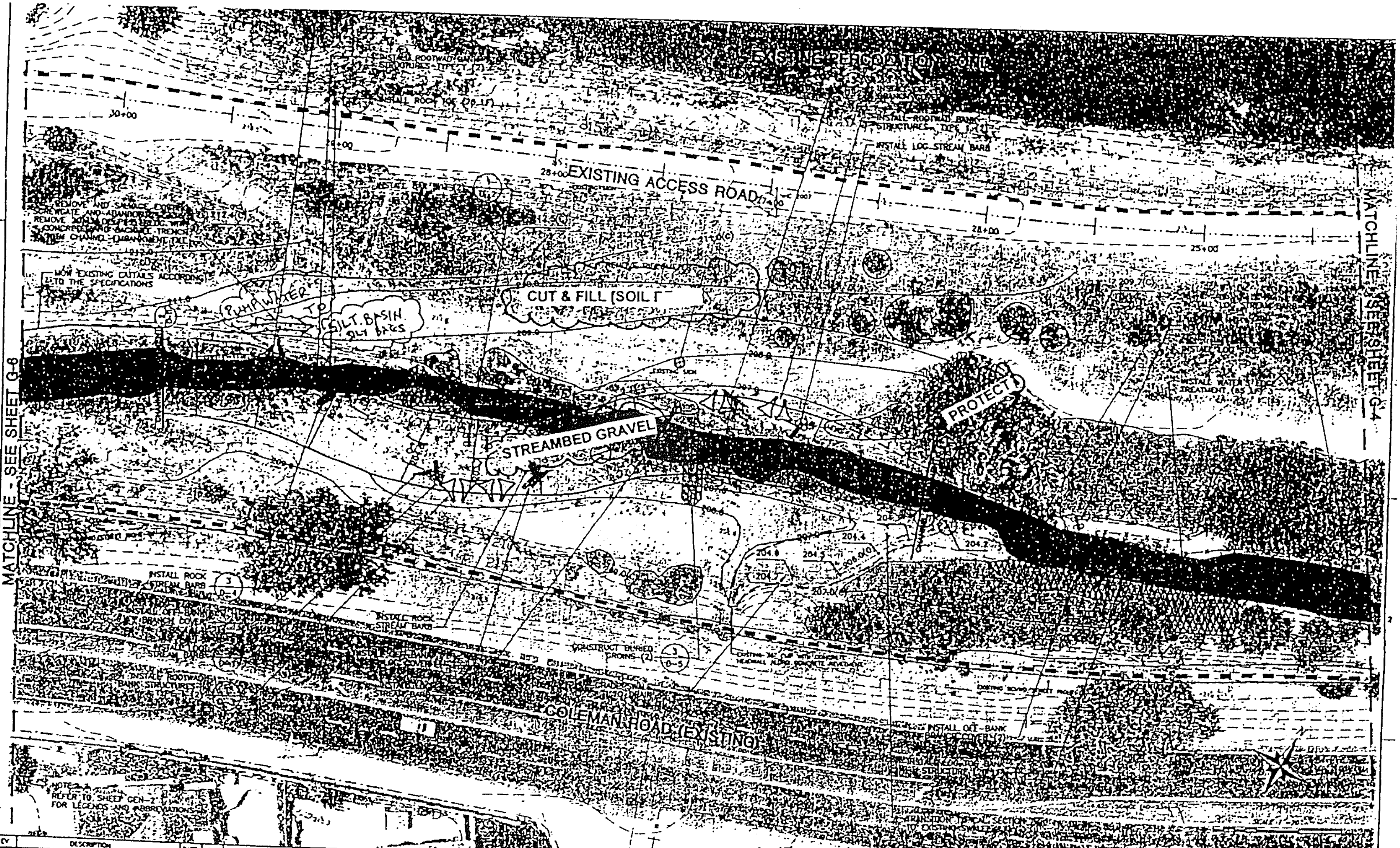
GRADING PLAN

VERIFY SCALES

0 1"

SCALE AS SHOWN

SHEET G-1


MATCHLINE - SEE SHEET G-4
MATCHLINE - SEE SHEET G-6
EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
INSTALL ROOTWAD BANK STRUCTURES
INSTALL ROCK LOG
INSTALL LOG STREAM BARB
30+00
29+00
28+00
26+00
25+00
REMOVE AND SALVAGE EXISTING ... ABANDON ...
MOW EXISTING OUTFALLS ACCORDING TO THE SPECIFICATIONS
CUT & FILL [SOIL
PUMP WATER TO SILT BASIN
SILT BAGS
STREAMBED GRAVEL
PROTECT
EXISTING SIGN
INSTALL WATTLE SLOPE TREATMENT
INSTALL ROCK STREAM BARB
CONSTRUCT BURIED GROINS (2)
COLEMAN ROAD (EXISTING)
INSTALL OFF-BANK
TRANSITION TYPICAL SECTION TO EXISTING SWALE
NOTE 2. REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

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northwest hydraulic consultants, Inc.

DATE 04/18/01
DESIGN EW/JH
DRAWN

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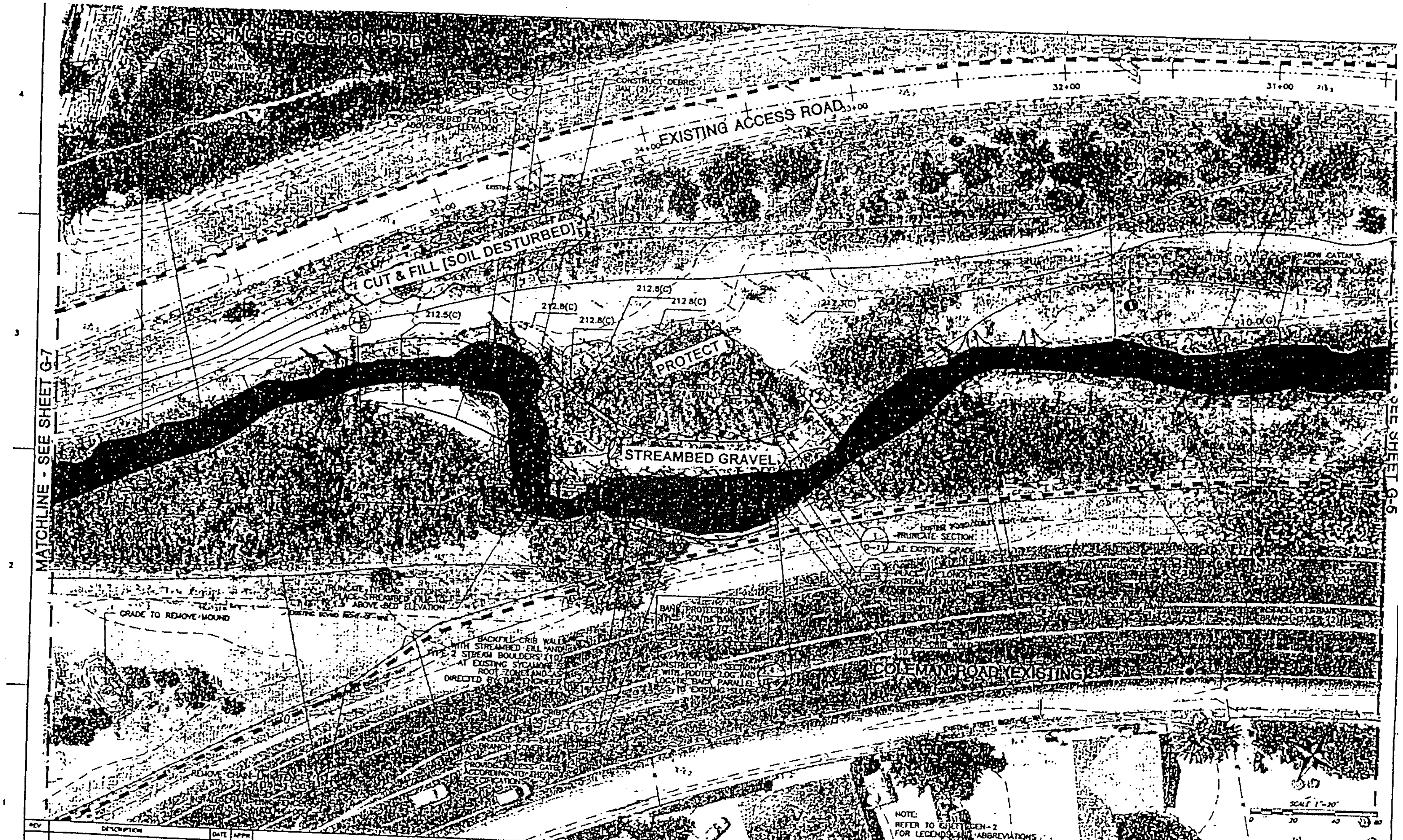
GUADALUPE CREEK
RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-5


EXISTING PERCOLATION POND
CONSTRUCT DEBRIS JAM (2)
PLACE STREAMBED FILL TO ABOVE BED ELEVATION
EXISTING ACCESS ROAD
34+00
33+00
32+00
31+00
35+00
CUT & FILL [SOIL DESTURBED]
212.5(C)
212.8(C)
212.8(C)
212.8(C)
212.8(C)
213.0
210.0(G)
PROTECT
STREAMBED GRAVEL
TRUNCATE SECTION
AT EXISTING GRADE
TRUNCATE TYPICAL SECTIONS & PLACE STREAMBED FILL TO 1.5' ABOVE BED ELEVATION
GRADE TO REMOVE MOUND
BACKFILL CRIB WALL WITH STREAMBED FILL AND TYPE 2 STREAM BOULDERS (10) AT EXISTING SYCAMORE ROOT ZONE AND AS DIRECTED BY THE ENGINEER
BANK PROTECTION
CONSTRUCT END SECTION WITH FOOTER AND LOCATE BACK PARALLEL TO EXISTING SLOPE
COLEMAN ROAD (EXISTING)
EXISTING STREET RIGHT-OF-WAY
PROVIDE ACCESS GATES ACCORDING TO THE SPECIFICATIONS
REMOVE CHAIN LINK
MATCHLINE - SEE SHEET G-7
MATCHLINE - SEE SHEET G-5
SCALE 1"=20'
0
20
40
80
NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS
1
2
3
4
A

REV	DESCRIPTION	DATE	APPR

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nhc northwest hydraulic consultants, inc.

DATE 09/18/01

DESIGN EW/JH

Santa Clara Valley Water District

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Mh. h. H. 9/19/01

GUADALUPE CREEK RESTORATION PROJEC

GRADING PLAN

VERIFY SCALES

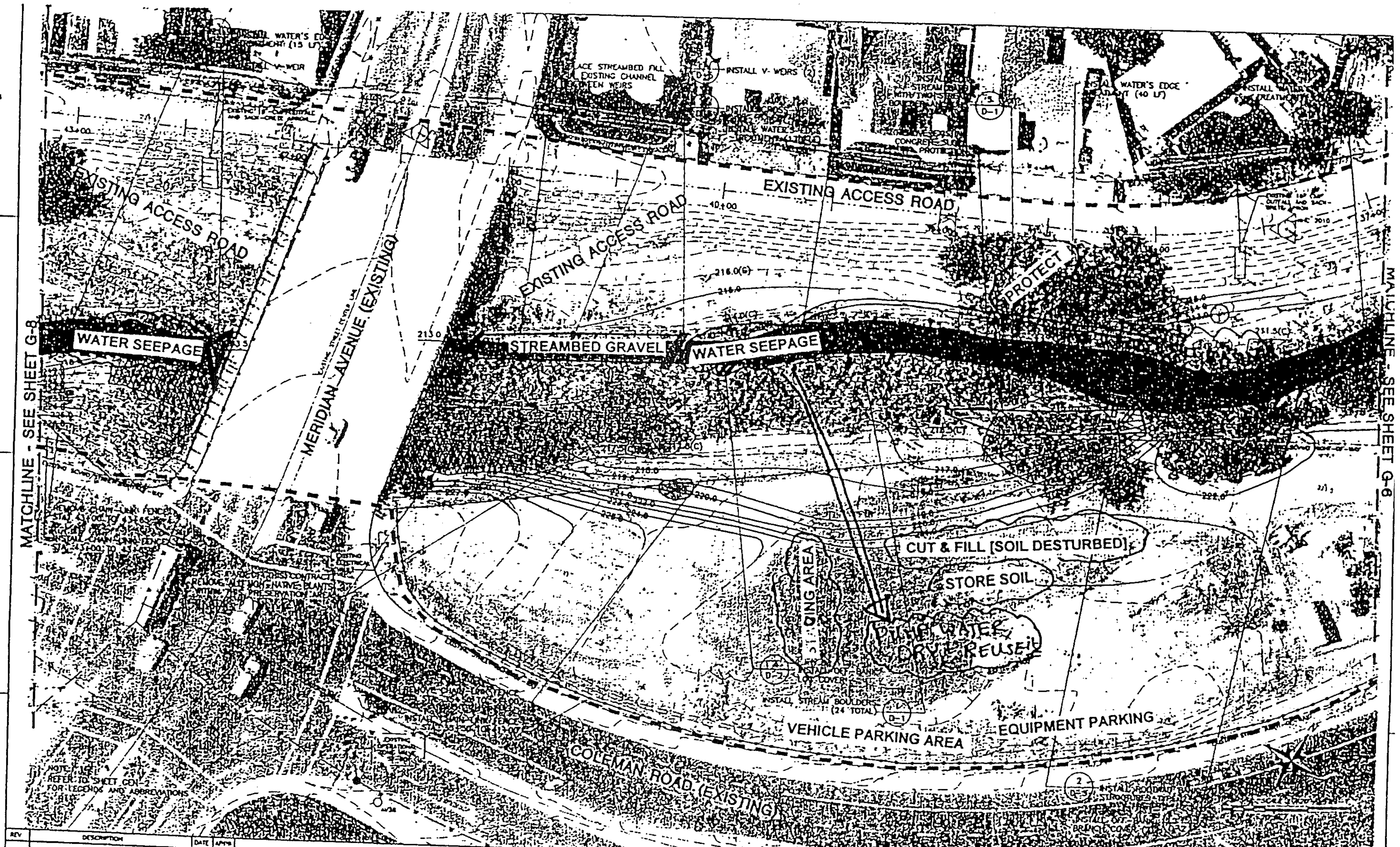
0 1"

BAR IS ONE INCH ON ORIGINAL DRAWING

SCALE AS SHOWN

SHEET

G-


MATCHLINE - SEE SHEET G-8
MATCHLINE - SEE SHEET G-6
EXISTING ACCESS ROAD
EXISTING ACCESS ROAD
EXISTING ACCESS ROAD
MERIDIAN AVENUE (EXISTING)
WATER SEEPAGE
STREAMBED GRAVEL
WATER SEEPAGE
PROTECT
CUT & FILL [SOIL DESTURBED]
STORE SOIL
PUMP WATER DRY & REUSE
VEHICLE PARKING AREA
EQUIPMENT PARKING
COLEMAN ROAD (EXISTING)
INSTALL V- WEIRS (2)
INSTALL WATER'S EDGE PLANTING (40 LF)
CONCRETE SLOPE PROTECTION
INSTALL STREAM BOULDERS (24 TOTAL)
40+00
216.0
215.0
220.0
NOTE: REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

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DRAWN

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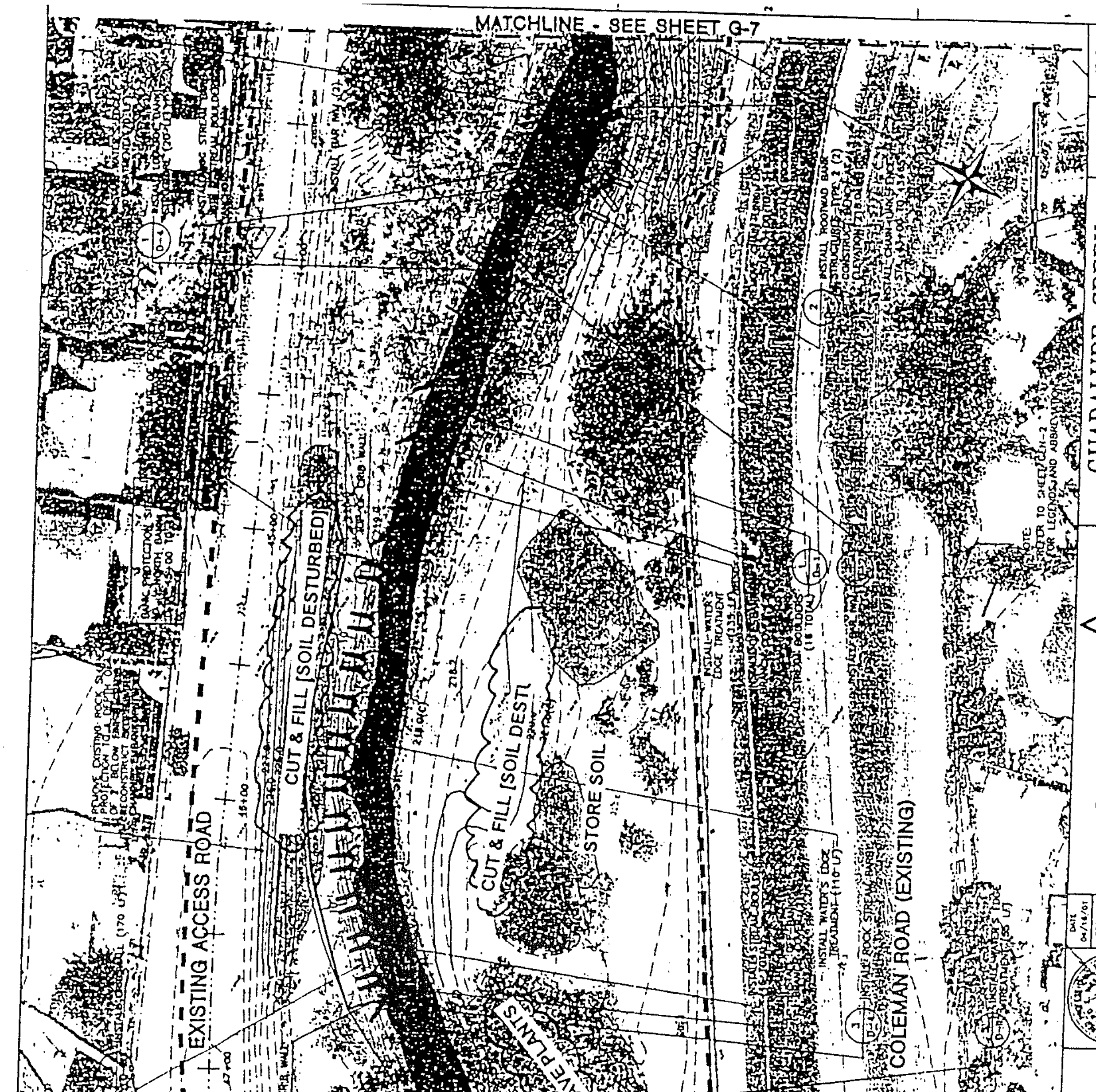
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-7


MATCHLINE - SEE SHEET G-7
MATCHLINE - SEE SHEET G-9
EXISTING ACCESS ROAD
COLEMAN ROAD (EXISTING)
CUT & FILL (SOIL DESTURBED)
CUT & FILL (SOIL DEST)
STORE SOIL
SAVE PLANTS
PROTECT
CUT & FILL (SOIL DESTURBED)
INSTALL LOG STREAM BARB
CONSTRUCT 1' DEEP SWALE
TOP OF CRIB WALL
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (110 LF)
INSTALL WATER'S EDGE TREATMENT
INSTALL ROOTWAD BANK STRUCTURE
INSTALL LOG STREAM BARB
NOTE: REFER TO SHEET GN-2 FOR LEGENDS AND ABBREVIATIONS
47+00
48+00
45+00
46+00

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

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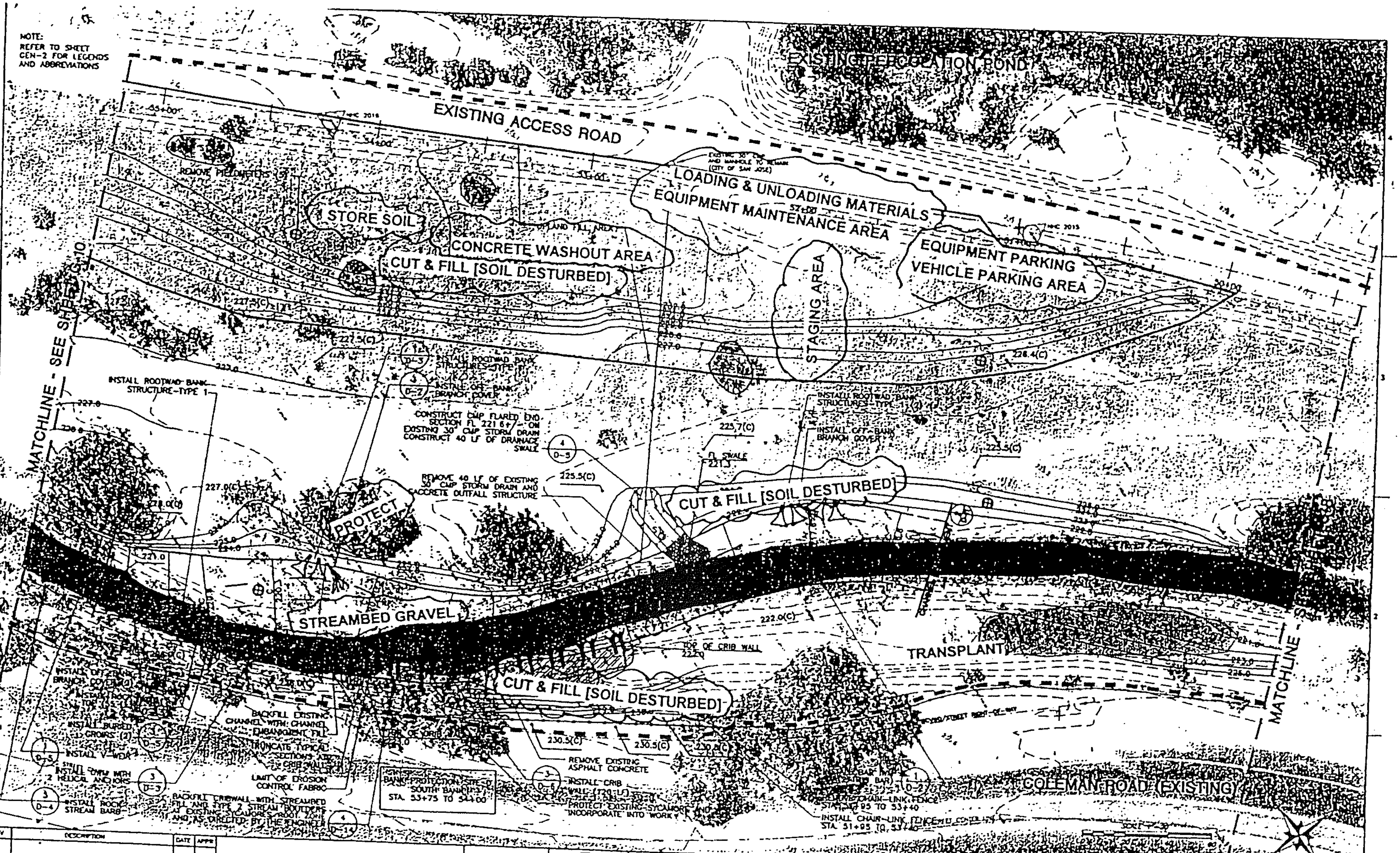
SCALE AS SHOWN

VERIFY SCALES

SHEET G-8

NOTE:
REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS


EXISTING PERCOLATION POND
EXISTING ACCESS ROAD
REMOVE PIEZOMETERS
STORE SOIL
LOADING & UNLOADING MATERIALS
EQUIPMENT MAINTENANCE AREA
CONCRETE WASHOUT AREA
CUT & FILL [SOIL DESTURBED]
EQUIPMENT PARKING
VEHICLE PARKING AREA
STAGING AREA
MATCHLINE - SEE SHEET G-10
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
INSTALL OFF-BANK BRANCH COVER
CONSTRUCT CMP FLARED END SECTION FL 221.6+/- ON EXISTING 30" CMP STORM DRAIN CONSTRUCT 40 LF OF DRAINAGE SWALE
REMOVE 40 LF OF EXISTING 30" CMP STORM DRAIN AND SACCRETE OUTFALL STRUCTURE
225.7(C)
225.5(C)
228.4(C)
227.5(C)
227.0(C)
FL SWALE 221.3
PROTECT
STREAMBED GRAVEL
CUT & FILL [SOIL DESTURBED]
TRANSPLANT
222.0(C)
TOP OF CRIB WALL 222.0
BACKFILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
INSTALL BURIED GROINS (2)
INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER
INSTALL CMW WITH 2 HELICAL ANCHORS
INSTALL ROCK STREAM BARB
LIMIT OF EROSION CONTROL FABRIC
BACKFILL CRIBWALL WITH STREAMBED FILL AND TYPE 2 STREAM BOULDERS AT EXISTING SYCAMORES ROOT ZONE AND AS DIRECTED BY THE ENGINEER
BANK PROTECTION TYPE D SOUTH BANK STA. 53+75 TO 54+00
230.5(C)
REMOVE EXISTING ASPHALT CONCRETE
INSTALL CRIB WALL (120 LF)
PROTECT EXISTING SYCAMORE AND INCORPORATE INTO WORK
INSTALL CHAIN-LINK FENCE STA. 51+95 TO 53+40
COLEMAN ROAD (EXISTING)
MATCHLINE

REV	DESCRIPTION	DATE	APPR

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DATE	04/18/01
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DRAWN	BH/BK/JS
CHECKED	EW/JZ

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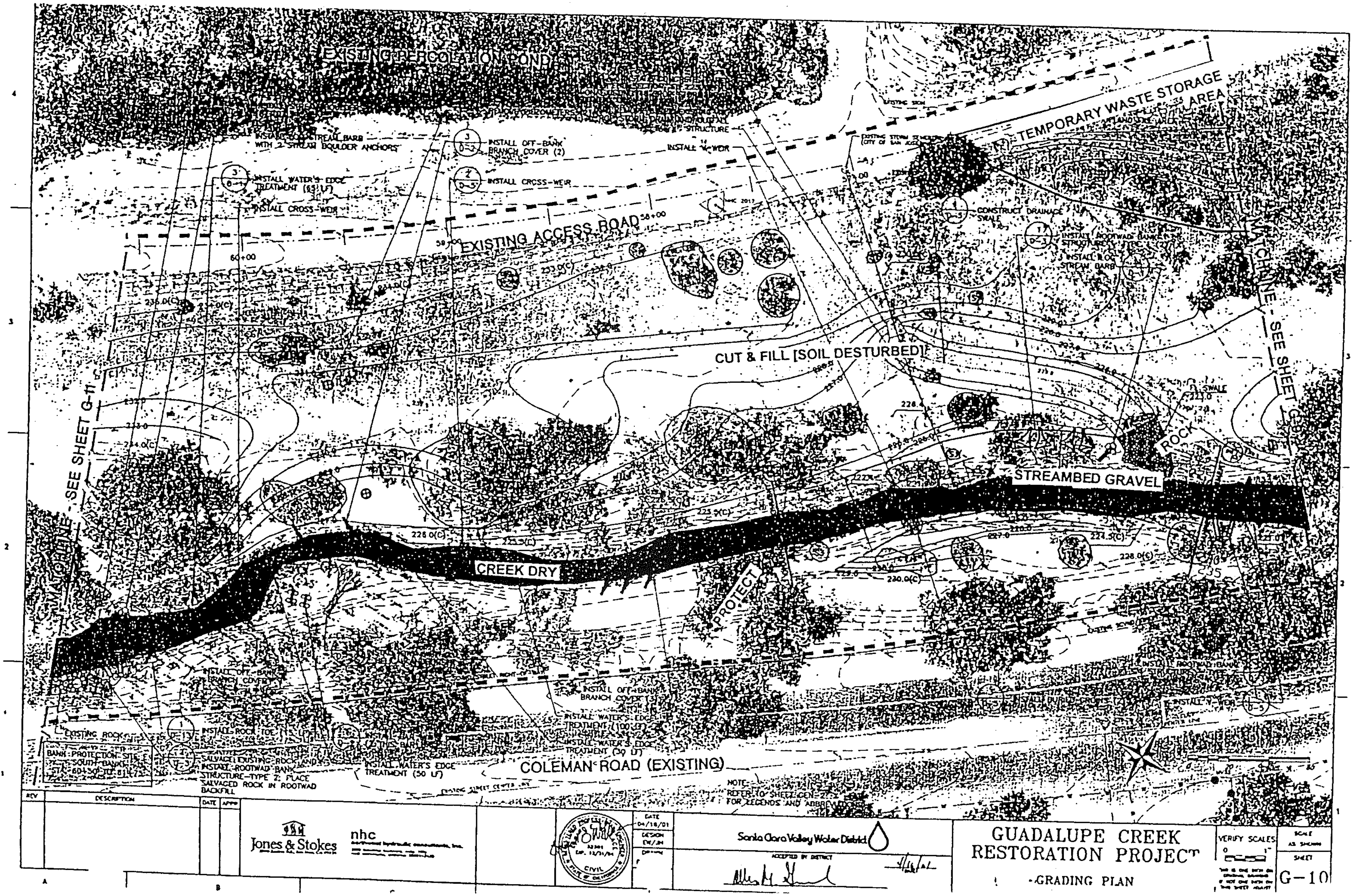
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-9


EXISTING PERCOLATION POND
TEMPORARY WASTE STORAGE AREA
INSTALL IN-STREAM BARB WITH 2 STREAM BOULDER ANCHORS
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL WATER'S EDGE TREATMENT (65 LF)
INSTALL CROSS-WEIR
INSTALL CROSS-WEIR
INSTALL V-WEIR
STRUCTURE
CONSTRUCT DRAINAGE SWALE
INSTALL ROOTWAD BANK STRUCTURE
INSTALL ROCK STREAM BARB
EXISTING ACCESS ROAD
CUT & FILL [SOIL DESTURBED]
MATCHLINE - SEE SHEET G-11
MATCHLINE - SEE SHEET G-9
STREAMBED GRAVEL
ROCK
CREEK DRY
PROTECT
INSTALL OFF-BANK BRANCH COVER
INSTALL OFF-BANK BRANCH COVER (3)
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL WATER'S EDGE TREATMENT (30 LF)
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL ROOTWAD BANK STRUCTURE
INSTALL V-WEIR
EXISTING ROCK
BANK PROTECTION SITE 5 SOUTH BANK STA. 60+50 TO 61+73
INSTALL ROCK TOE
SALVAGE EXISTING ROCK AND INSTALL ROOTWAD BANK STRUCTURE-TYPE 2; PLACE SALVAGED ROCK IN ROOTWAD BACKFILL
COLEMAN ROAD (EXISTING)
EXISTING STREET CENTER LINE
60+00
59+00
58+00
235.0(C)
226.0(C)
225.0(C)
228.0(C)
230.0(C)
221.5(C)
NOTE: REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

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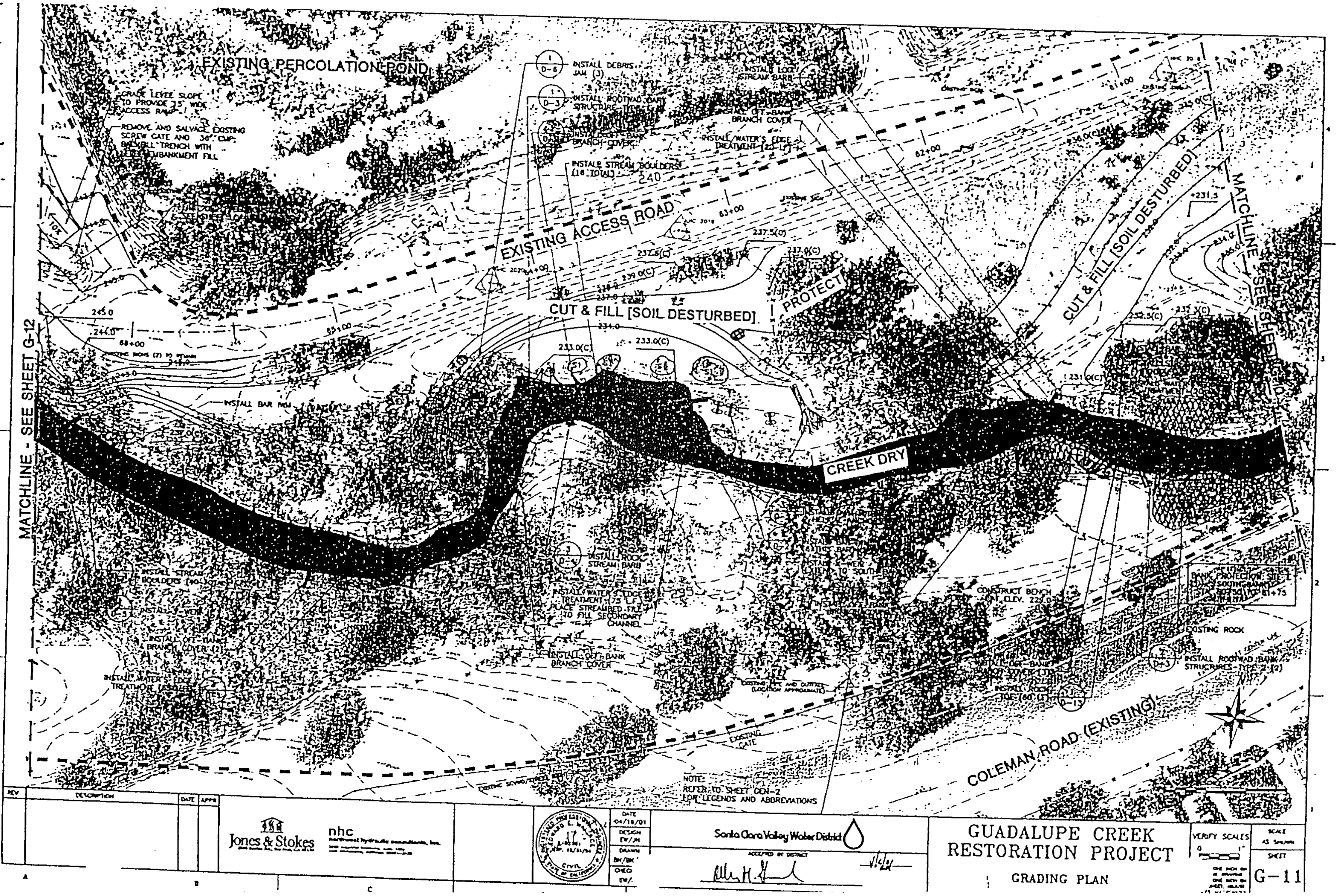
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-10


EXISTING PERCOLATION POND
GRADE LEVEE SLOPE TO PROVIDE 25' WIDE ACCESS RAMP
REMOVE AND SALVAGE EXISTING SCREW GATE AND 36" CMP; BACKFILL TRENCH WITH EMBANKMENT FILL
INSTALL DEBRIS JAM (3)
INSTALL ROOTWAD BANK STRUCTURE
INSTALL OFF-BANK BRANCH COVER
INSTALL STREAM BOULDERS (18 TOTAL)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT
EXISTING ACCESS ROAD
CUT & FILL [SOIL DESTURBED]
PROTECT
CREEK DRY
MATCHLINE - SEE SHEET G-12
MATCHLINE - SEE SHEET G-10
INSTALL BAR
INSTALL STREAM BOULDERS
INSTALL V-WEIR
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL WATER'S EDGE TREATMENT
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT 75 LF; PLACE STREAMBED FILL TO FILL SECONDARY CHANNEL
INSTALL OFF-BANK BRANCH COVER
EXISTING PIPE AND OUTFALL (LOCATION APPROXIMATE)
EXISTING GATE
CONSTRUCT BENCH AT ELEV. 225.0
BANK PROTECTION SEE 1 SOUTH BANK
EXISTING ROCK
INSTALL ROOTWAD BANK STRUCTURES TYPE 2 (2)
COLEMAN ROAD (EXISTING)
240
245.0
244.0
233.0(C)
234.0
237.0(C)
237.5(C)
231.0(C)
231.5
62+00
63+00
64+00
65+00
66+00
61+00
D-6
D-3
D-4
D-13
D-2

NOTE:
REFER TO SHEET GEN-2
FOR LEGENDS AND ABBREVIATIONS

REV	DESCRIPTION	DATE	APPR

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DATE	04/18/01
DESIGN	EW/JM
DRAWN	BH/BK
CHKD	EW/

Santa Clara Valley Water District

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4/4/01

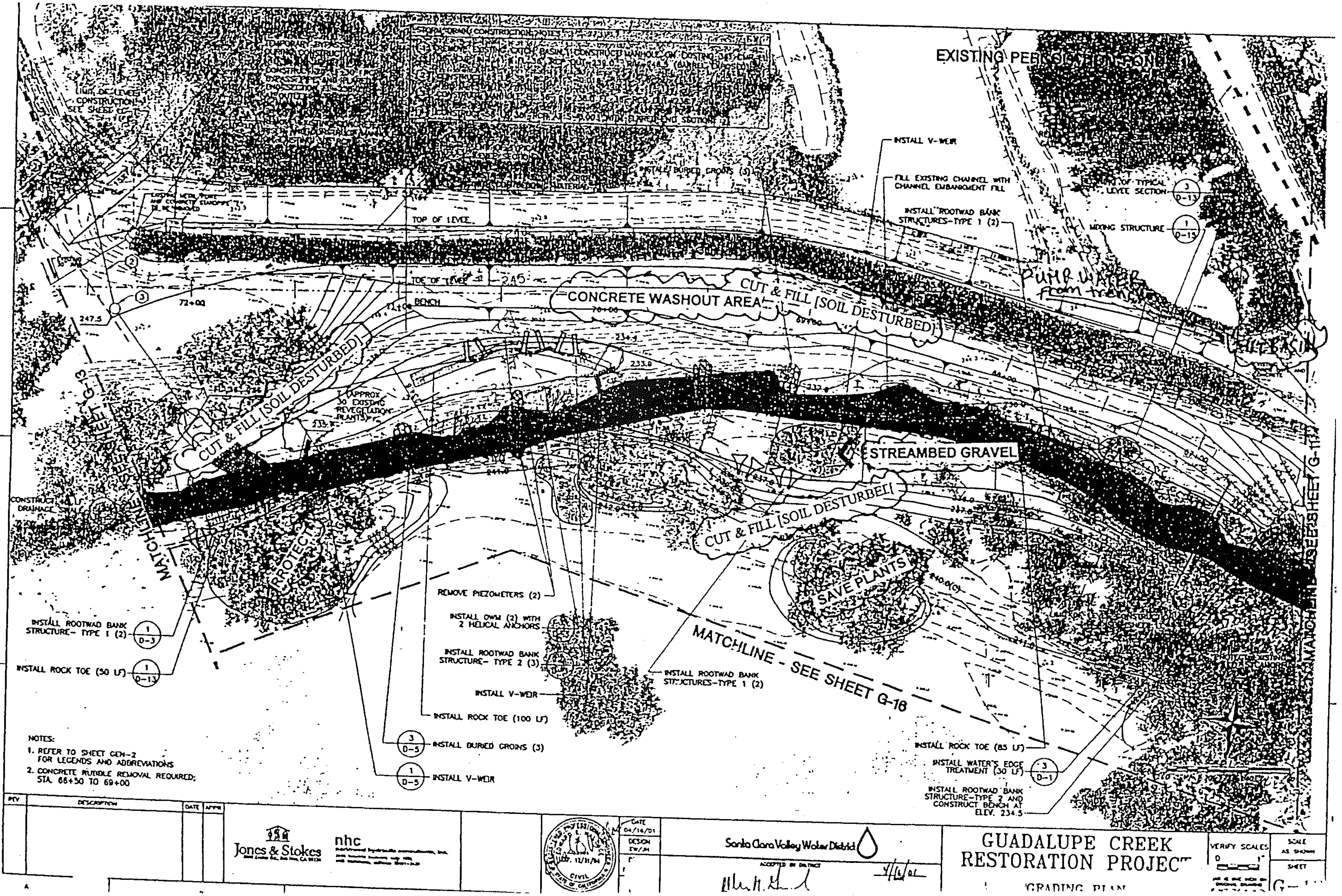
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE
AS SHOWN

SHEET
G-11


EXISTING PERCOLATION POND
INSTALL V-WEIR
FILL EXISTING CHANNEL WITH CHANNEL EMBANKMENT FILL
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
LEVEE SECTION 3 D-13
MIXING STRUCTURE 1 D-15
INSTALL BURIED GROINS (3)
TOP OF LEVEE
TOE OF LEVEE 245
BENCH
PUMP WATER from trench
CONCRETE WASHOUT AREA
CUT & FILL [SOIL DESTURBED]
CUT & FILL [SOIL DESTURBED]
CUT & FILL [SOIL DESTURBEI]
APPROX 30 EXISTING REVEGETATION PLANTS
STREAMBED GRAVEL
PROTECT
SAVE PLANTS
72+00
70+00
69+00
247.5
234.5
233.0
MATCHLINE - SEE SHEET G-13
MATCHLINE - SEE SHEET G-16
MATCHLINE - SEE SHEET G-11
CONSTRUCT DRAINAGE SWALE
INSTALL ROOTWAD BANK STRUCTURE- TYPE 1 (2) 1 D-3
INSTALL ROCK TOE (50 LF) 1 D-13
REMOVE PIEZOMETERS (2)
INSTALL OWM (2) WITH 2 HELICAL ANCHORS
INSTALL ROOTWAD BANK STRUCTURE- TYPE 2 (3)
INSTALL V-WEIR
INSTALL ROCK TOE (100 LF)
INSTALL BURIED GROINS (3) 3 D-5
INSTALL V-WEIR 1 D-5
INSTALL ROOTWAD BANK STRUCTURES-TYPE 1 (2)
INSTALL ROCK TOE (85 LF)
INSTALL WATER'S EDGE TREATMENT (30 LF) 3 D-1
INSTALL ROOTWAD BANK STRUCTURE-TYPE 2 AND CONSTRUCT BENCH AT ELEV. 234.5

NOTES:
1. REFER TO SHEET GEN-2 FOR LEGENDS AND ABBREVIATIONS
2. CONCRETE RUBBLE REMOVAL REQUIRED: STA. 66+50 TO 69+00

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc

DATE 04/14/01
DESIGN EW/JH

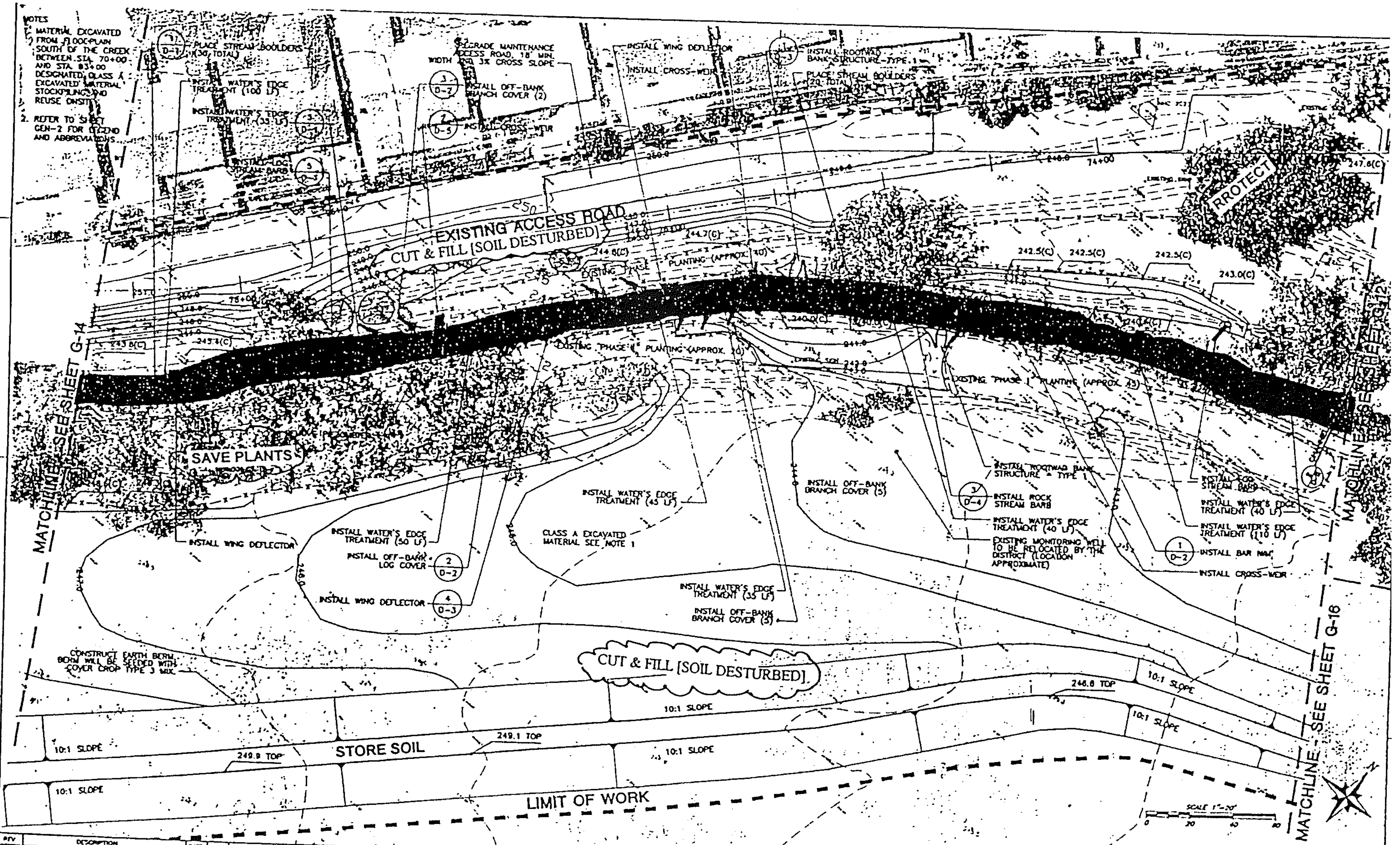
Santa Clara Valley Water District

ACCEPTED BY DISTRICT
Mark H. [illegible] 4/16/01

GUADALUPE CREEK RESTORATION PROJEC

GRADING PLAN

VERIFY SCALES
SCALE AS SHOWN
SHEET G-


EXISTING ACCESS ROAD
CUT & FILL [SOIL DESTURBED]
SAVE PLANTS
PROTECT
STORE SOIL
LIMIT OF WORK
MATCHLINE – SEE SHEET G-14
MATCHLINE – SEE SHEET G-16
MATCHLINE – SEE SHEET G-12
PLACE STREAM BOULDERS (30 TOTAL)
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL LOG STREAM BARB
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN. WIDTH AND 3% CROSS SLOPE
INSTALL OFF-BANK BRANCH COVER (2)
INSTALL CROSS-WEIR
INSTALL WING DEFLECTOR
INSTALL ROOTWAD BANK STRUCTURE-TYPE 1
PLACE STREAM BOULDERS (20 TOTAL)
EXISTING PHASE 1 PLANTING (APPROX. 40)
EXISTING PHASE 1 PLANTING (APPROX. 20)
EXISTING PHASE 1 PLANTING (APPROX. 45)
INSTALL WATER'S EDGE TREATMENT (50 LF)
INSTALL OFF-BANK LOG COVER
INSTALL WATER'S EDGE TREATMENT (45 LF)
CLASS A EXCAVATED MATERIAL SEE NOTE 1
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL OFF-BANK BRANCH COVER (5)
INSTALL ROOTWAD BANK STRUCTURE - TYPE 1
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (40 LF)
EXISTING MONITORING WELL TO BE RELOCATED BY THE DISTRICT (LOCATION APPROXIMATE)
INSTALL LOG STREAM BARB
INSTALL WATER'S EDGE TREATMENT (110 LF)
INSTALL BAR WAK
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX.
10:1 SLOPE
249.9 TOP
249.1 TOP
246.8 TOP
247.8(C)
243.0(C)
242.5(C)
244.7(C)
244.8(C)
243.8(C)
243.4(C)
240.0(C)
74+00
75+00
248.0
246.0
244.0
SCALE 1"=20'
0
20
40
80

NOTES
1. MATERIAL EXCAVATED FROM FLOODPLAIN SOUTH OF THE CREEK BETWEEN STA. 70+00 AND STA. 83+00 DESIGNATED CLASS A EXCAVATED MATERIAL STOCKPILING AND REUSE ONSITE.
2. REFER TO SHEET GEN-2 FOR LEGEND AND ABBREVIATIONS.

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc
northwest hydraulic consultants, inc.

DATE 04/18/01
DESIGN JH/KC
DRAWN

Santa Clara Valley Water District

ACCEPTED BY DISTRICT

3/1/01

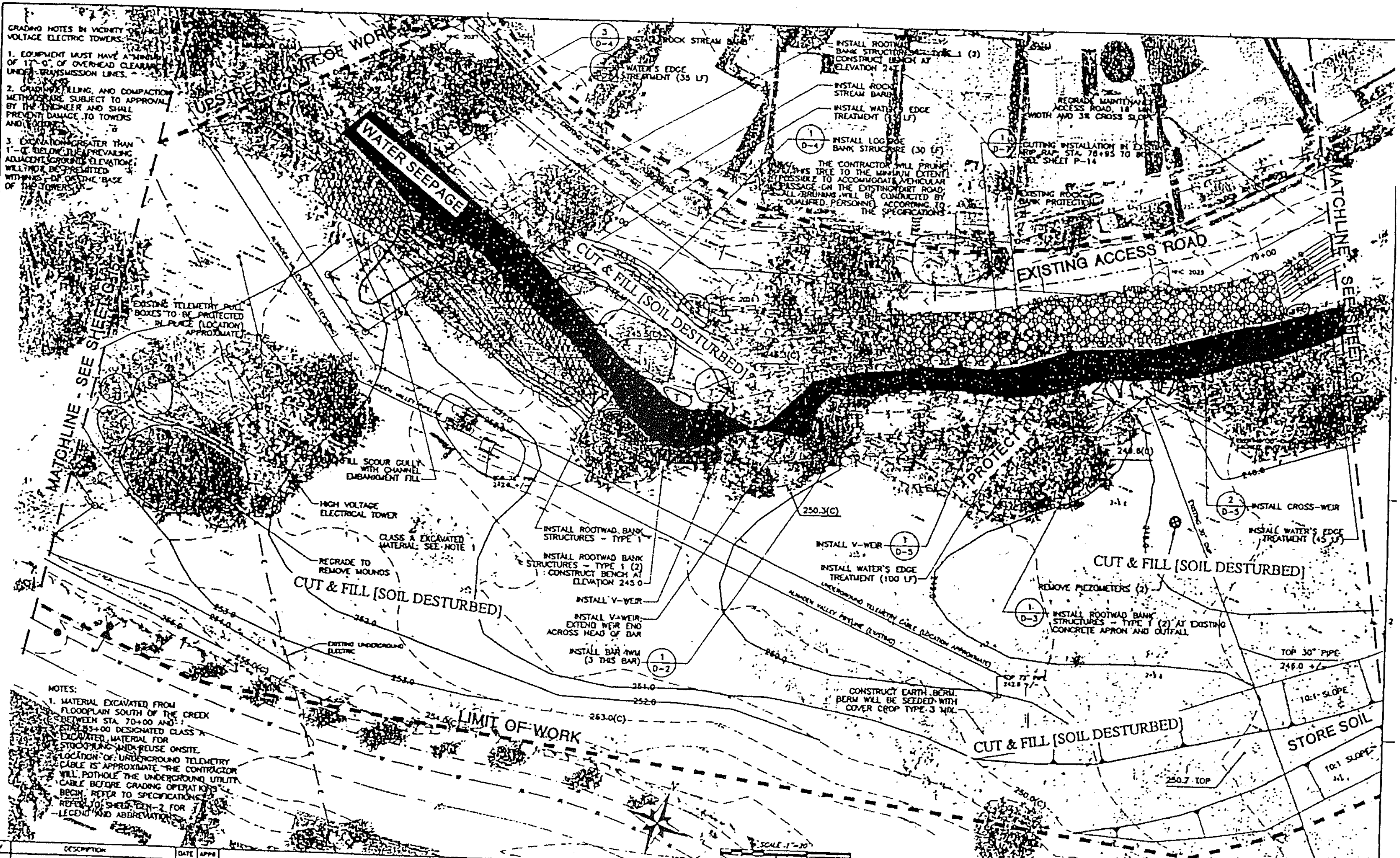
GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES
0 1"

SCALE AS SHOWN

SHEET G-13


UPSTREAM LIMIT OF WORK
WATER SEEPAGE
CUT & FILL [SOIL DESTURBED]
EXISTING ACCESS ROAD
MATCHLINE - SEE SHEET G-13
MATCHLINE - SEE SHEET G-15
PROTECT
LIMIT OF WORK
STORE SOIL
INSTALL ROCK STREAM BARB
WATER'S EDGE TREATMENT (35 LF)
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 245
INSTALL ROCK STREAM BARB
INSTALL WATER'S EDGE TREATMENT (35 LF)
INSTALL LOG TOE BANK STRUCTURE (30 LF)
THE CONTRACTOR WILL PRUNE THIS TREE TO THE MINIMUM EXTENT POSSIBLE TO ACCOMMODATE VEHICULAR PASSAGE ON THE EXISTING DIRT ROAD. ALL PRUNING WILL BE CONDUCTED BY QUALIFIED PERSONNEL ACCORDING TO THE SPECIFICATIONS
REGRADE MAINTENANCE ACCESS ROAD, 18' MIN WIDTH AND 3% CROSS SLOPE
CUTTING INSTALLATION IN EXISTING RIP-RAP, STA. 78+93 TO 80+ SEE SHEET P-14
EXISTING ROCK BANK PROTECTION
EXISTING TELEMETRY PULL BOXES TO BE PROTECTED IN PLACE (LOCATION APPROXIMATE)
FILL SCOUR GULLY WITH CHANNEL EMBANKMENT FILL
HIGH VOLTAGE ELECTRICAL TOWER
CLASS A EXCAVATED MATERIAL: SEE NOTE 1
RECRADE TO REMOVE MOUNDS
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) CONSTRUCT BENCH AT ELEVATION 245.0
INSTALL V-WEIR
INSTALL V-WEIR; EXTEND WEIR END ACROSS HEAD OF BAR
INSTALL BAR TWW (3 THIS BAR)
INSTALL V-WEIR
INSTALL WATER'S EDGE TREATMENT (100 LF)
INSTALL CROSS-WEIR
INSTALL WATER'S EDGE TREATMENT (45 LF)
REMOVE PIEZOMETERS (2)
INSTALL ROOTWAD BANK STRUCTURES - TYPE 1 (2) AT EXISTING CONCRETE APRON AND OUTFALL
CONSTRUCT EARTH BERM. BERM WILL BE SEEDED WITH COVER CROP TYPE 3 MIX.
TOP 30" PIPE 246.0
10:1 SLOPE
10:1 SLOPE
250.7 TOP
250.3(C)
245.5(C)
248.6(C)
246.0
251.0
252.0
253.0
254.0
255.0
256.0(C)
263.0(C)
254.0(C)
250.0(C)
260.0
70+00
EXISTING UNDERGROUND ELECTRIC
ALMADEN VALLEY PIPELINE (EXISTING)
UNDERGROUND TELEMETRY CABLE (LOCATION APPROXIMATE)
1 D-4
3 D-4
1 D-7
2 D-5
1 D-5
1 D-3
1 D-2
SCALE 1"=20'
0 20 40 60

GRADING NOTES IN VICINITY OF HIGH VOLTAGE ELECTRIC TOWERS:

1. EQUIPMENT MUST HAVE A MINIMUM OF 17'-0" OF OVERHEAD CLEARANCE UNDER TRANSMISSION LINES.

2. GRADING, FILLING, AND COMPACTION METHODS ARE SUBJECT TO APPROVAL BY THE ENGINEER AND SHALL PREVENT DAMAGE TO TOWERS AND FOOTINGS.

3. EXCAVATION GREATER THAN 1'-0" BELOW THE PREVAILING ADJACENT GROUND ELEVATION WILL NOT BE PERMITTED WITHIN 25' OF THE BASE OF THE TOWERS.

NOTES:

1. MATERIAL EXCAVATED FROM FLOODPLAIN SOUTH OF THE CREEK BETWEEN STA. 70+00 AND STA. 83+00 DESIGNATED CLASS A EXCAVATED MATERIAL FOR STOCKPILING AND REUSE ONSITE.
2. LOCATION OF UNDERGROUND TELEMETRY CABLE IS APPROXIMATE. THE CONTRACTOR WILL POTHOLE THE UNDERGROUND UTILITY CABLE BEFORE GRADING OPERATIONS BEGIN. REFER TO SPECIFICATIONS.
3. REFER TO SHEET GEN-2 FOR LEGEND AND ABBREVIATIONS.

REV	DESCRIPTION	DATE	APPR

Jones & Stokes

nhc northwest hydraulic consultants, inc.

DATE 04/18/01

DESIGN FW/JH

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4/4/01

GUADALUPE CREEK RESTORATION PROJECT

GRADING PLAN

VERIFY SCALES

SCALE AS SHOWN

SHEET G-14

APPENDIX G

- Guadalupe Creek Restoration Project Contractor's Health and Safety Plan

FERMA CORPORATION

PROJECT SPECIFIC HEALTH & SAFETY PLAN

FOR

CONSTRUCTION OF GUADALUPE CREEK RESTORATION PROJECT FROM ALMADEN EXPRESSWAY TO MASSON DAM – PROJECT #301525

The Project Specific Health and Safety Plan contained herein has been prepared on behalf of Ferma Corporation by Tetra Tech, Inc, 3746 Mt. Diablo Blvd. Suite 300, Lafayette, CA 94549.

Approved by: M. Ridosh

Michael Ridosh, Certified Industrial Hygienist
Tetra Tech, Inc.

The Site Health and Safety Plan contained herein has been reviewed/accepted by:

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TABLE OF CONTENTS

PAGE

1. INTRODUCTION 1
   - 1.1 Objective of the Health and Safety Plan 1
   - 1.2 Policy Statement 1
   - 1.3 HSP Requirements 1

2. BACKGROUND AND PROJECT WORK SCOPE 2
   - 2.1 Site Background 2
   - 2.2 Work Scope 2

3. PERSONNEL AND RESPONSIBILITIES 4
   - 3.1 Project Organization 4
   - 3.2 Health and Safety Officer Responsibilities 4
   - 3.3 Project Field Personnel 5

4. HAZARD ASSESSMENT AND CONTROL MEASURES 6
   - 4.1 Physical Hazards 6
     - 4.1.1 Excavating and Grading Hazards 6
     - 4.1.2 Traffic Hazards 7
     - 4.1.3 Slips, Trips, and Falls 8
     - 4.1.4 Noise Hazards 8
     - 4.1.5 Back and Muscular Strain 8
     - 4.1.6 Heat Stress 8
   - 4.2 Protection for Physical Hazards 10
     - 4.2.1 Head Protection 10
     - 4.2.2 Foot Protection 10
     - 4.2.3 Eye Protection 10
     - 4.2.4 Noise Protection 10
     - 4.2.5 Heat Stress Protective Measures 10
     - 4.2.6 Other Health-related Concerns 11
   - 4.3 Chemical Hazards 11

5. GENERAL SAFE WORK PRACTICES 13
   - 5.1 Performance Requirements 13
   - 5.2 General Practices 13

6. SITE ACCESS CONTROL AND WORK ZONES 15
   - 6.1 Site Access 15
   - 6.2 Work Zones 15

7. TRAINING....17
7.1 Training Requirements....17
7.2 Site-specific Training....17
7.2.1 Initial Site Safety Briefing....17
7.2.2 Tailgate Safety Meetings....17
7.2.3 Visitor Policy and Training Brief....18

8. MEDICAL SURVEILLANCE PROGRAM....19
8.1 Baseline....19
8.2 Exposure....19

9. PERSONAL PROTECTION....21
9.1 Selection Criteria for PPE....21
9.2 Standard PPE for Onsite Personnel....21
9.3 PPE in Controlled Work Zones....21

10. DECONTAMINATION PROCEDURES....23
10.1 Purpose of Decontamination....23
10.2 Non-Disposable Clothing and Boots....23
10.3 Personnel Protective Equipment....23
10.4 Sampling Equipment....24
10.5 Instruments....24
10.6 Handling of Contaminated Water....25
10.7 Storage of Contaminated Materials....25
10.8 Decontamination of Heavy Equipment and Vehicles....25

11. AIR MONITORING....26

12. EMERGENCY PROCEDURES....27
12.1 General Emergency Procedures....27
12.2 Emergency Phone Numbers....27
12.3 Directions to Hospital....28
12.4 Contingency Plan....28
12.4.1 Fire/Explosion....29
12.4.2 Personal Injuries....29
12.4.3 Potential Chemical Exposure....29
12.4.4 Decontamination during Medical Emergencies....29
12.4.5 Off-Site Spills of Contaminated Soil....30
12.4.6 On-Site Posting of Warning Signs....30

13. SUMMARY – HEALTH AND SAFETY PLAN 31

14. HEALTH AND SAFETY PLAN AGREEMENT 32

15. REFERENCES 33

TABLES AND FIGURES

APPENDIX A. MSDS

APPENDIX B. PROJECT DRAWINGS

1. INTRODUCTION

1.1 OBJECTIVES OF HEALTH AND SAFETY PLAN

The objective of this Site Specific Health and Safety Plan (HSP) is to describe health and safety practices and procedures to adequately protect workers and visitors during the Guadalupe Creek Restoration Project. This document addresses issues specific to the planned work for this project and can be amended in the field as necessary by the Site Safety Officer (SSO).

1.2 POLICY STATEMENT

It is the policy of Ferma Corporation to provide a safe and healthful work environment for all its employees and subcontractors. This HSP is not intended to supersede the Ferma Injury Illness Prevention Plan (IIPP). A copy of the HSP is to be kept on site at all times and made available to all personnel assigned to this project. The information included in this HSP will be reviewed with all project personnel.

Since site conditions are subject to change and unforeseen conditions may arise, amendments or additions may need to be made to this HSP during the course of work. In any event, modifications to this HSP can only be made by the SSO of Ferma Corporation.

All Subcontractors are required to comply with the requirements of this HSP and their own IIPP during subcontract operations and activities at the Site.

1.3 HEALTH AND SAFETY REQUIREMENTS

This HSP complies with Federal Occupational Safety and Health Act (OSHA), California Department of Industrial Relations, Division of Occupational Safety and Health (CAL/OSHA), United States Environmental Protection Agency (EPA), California Environmental Protection Agency (CAL/EPA), and California Department of Toxic Substances Control (DTSC), the Regional Water Quality Board (RWQB), and U.S. Army Corps of Engineers (USACE) regulations.

Also included by reference in this plan are the relevant sections of:

- Specifications and Contract Documents for Project 301525 including Section 27 and other applicable Sections.
- Sections 4.6.2.1.1 and Section 4.8.2.1 and other relevant sections of the Guadalupe Creek Restoration Project EIR/EIS, March 2001.
- The pertinent sections of the Tetra Tech, Inc Soil Management Plan for Guadalupe Creek Project, February 2001.

2. BACKGROUND AND PROJECT WORK SCOPE

2.1 SITE BACKGROUND

The project site is located in Santa Clara County in San Jose from Almaden Expressway to Masson Dam within the boundaries of the Central Zone of the Santa Clara Valley Water District. The project site encompasses the reaches of Guadalupe Creek from Almaden Expressway to Masson Dam in San Jose, California, extending over a distance of about 1.6 miles. Because of former mercury mining operations in the upper Guadalupe Creek watershed, elevated mercury may be present in the creek sediment and bank soils. Most of the mercury is present as cinnabar, an inorganic mercury sulfide compound. Previous sampling has been conducted to estimate mercury concentrations within the project site and to determine if other elevated metals or organic compounds were present (Tetra Tech, 2000 and 2001). Results of the previous sampling are discussed in Section 4.2 of this HSP.

The Guadalupe Creek Restoration Project is designed to improve aquatic habitat along the project reach for anadromous fish such as steelhead and chinook salmon. The planned modifications will require excavation of existing creek channel and bank soils along some sections, as described in the Engineer's Report and EIR/EIS (Jones and Stokes, 2001). Following realignment of the channel, riparian vegetation and shaded aquatic cover vegetation will be planted along the creek. Prior to start of the field work for the restoration project, the creek was dewatered between Almaden Expressway and Masson Dam. The creek was routed to the percolation ponds located next to the creek.

2.2 WORK SCOPE

Ferma Corporation has been contracted by the Santa Clara Valley Water District to establish riparian vegetation and shaded riverine aquatic cover and to improve the aquatic habitat in the lower reaches of Guadalupe Creek from Almaden Expressway to Masson Dam in the City of San Jose, CA. This project includes the excavation of soils within the areas designated for excavation. Ferma Corporation will perform various tasks that may impact soils at the site that have been found to contain mercury. This Project Specific Health and Safety Plan (HSP) has been prepared specifically to identify the procedures and methods for controlling and monitoring mercury exposure, and was prepared in accordance with CAL OSHA requirements described in Title 8, Section 1529, of the California Code of Regulations.

The planned work includes the following types of activities:

- Clearing and grubbing.
- Surveying and installing temporary fencing.
- Application of herbicides to vegetation in selected areas.
- Channel and floodplain excavation.
- Soil testing to determine appropriate disposal and/or on-site re-use of soil.
- Installation of in-stream woody material.

- Installation of irrigation system.
- Maintenance for a three-year period.
- Other miscellaneous construction work and items necessary to satisfactorily complete the project.

Excavation of soil will be conducted in accordance with the Soil Management Plan for the Project (Tetra Tech, Inc, 2001). Mercury contaminated soil shall be disturbed only to the extent necessary to effect project improvements. Excavated soil will be placed in stockpiles in designated. limited access areas. The soil will be tested according to the Soil Management Plan by trained sampling personnel to determine if it can be reused onsite. Excavated soils that will be hauled off site will be tested according to the Soil Management Plan and disposed of as hazardous or non-hazardous waste accordingly. Dust control measures as specified in Section 5.4.7 of the EIR/EIS will be used to reduce airborne dust emissions. Monitoring will be conducted to ensure that Cal-OSHA requirements are met.

3. PERSONNEL AND RESPONSIBILITIES

3.1 PROJECT ORGANIZATION

Ferma Corporation has selected the following personnel to manage this project:

General Project Manager
Mr. Alan Kilik

Mr. Kilik will perform contract and subcontractor management.

On site Project Manager and Health and Safety Officer
Mr. Mark Abu-Tair

Mr. Abu-Tair will direct field activities to ensure that project requirements are met and that work is done in accordance with this HSP. He will provide oversight of subcontractor activities.

General Superintendent
Mr. Don Ferrari

The Project Superintendent shall have the responsibility and authority to direct all operations involving hazardous waste and materials. He will also serve as the Secondary Emergency Coordinator.

Project Foreman
Mr. Ken Alameda

Mr. Alameda will supervise all daily construction work operations.

3.2 HEALTH AND SAFETY OFFICER RESPONSIBILITIES

Ferma Corporation has designated Mark Abu-Tair as the Health and Safety Officer (HSO), and the Responsible Person for implementation of this HSP. The HSO's responsibilities include:

1) Overseeing implementation of the HSP, either by on-site supervision or through direction of an on-site designee. He is responsible for checking that personnel engaged in field work at the site comply fully with the requirements specified in the HSP.

2) Ensuring the training of personnel on the following topics:
    a) potential hazards associated with exposure to site contaminants:
    b) use of personal protective equipment:
    c) work practices to minimize exposure and contamination of adjoining properties:
    d) hygienic procedures; and

3) Decontamination Procedures
   a) Conducting tailgate health and safety briefings for field staff before start of each day to ensure that site personnel are informed of potential hazards anticipated at the site, precautions to be taken, and procedures to be implemented on the job.
   b) Coordinating monitoring to assess potential worker exposure to site contaminants.

The HSO is responsible for overall health and safety for Ferma Corporation. The HSO shall periodically inspect the Site and review compliance with the HSP. The HSP will determine the need for changes in the HSP and implement them as necessary.

3.3 PROJECT FIELD PERSONNEL

All field personnel will comply with the requests of the Ferma Project Manager and HSO. All field personnel must read the health and safety plan and agree to comply with the provisions of this plan. They will perform work in a manner that is conducive to good worker health and safety. Field personnel have the ability to stop work if worker safety or environmental damages are at risk or activities are not in compliance with this plan. The field personnel will report all HSP non-compliance issues, worker safety issues, endangerment to the environment, and health and safety related accidents to the HSO.

4. HAZARD ASSESSMENT AND CONTROL MEASURES

The potential chemical and physical hazards expected at the site due to project activities such as excavation, general soil grading, and revegetation are discussed below.

4.1 PHYSICAL HAZARDS

Physical hazards posed by project activities are those typical of excavation requiring the use of heavy construction equipment. The safety procedures pertaining to this type of work are covered by the Ferma Corporation Injury Illness Prevention Program. Methods, equipment, and procedures to control physical hazards are also briefly described in the IIPP. A summary of the physical hazards and control measures applicable to this site is included in this HSP.

Physical hazards associated with field activities planned during this project will be primarily of the following nature:

- Hazards associated with excavating and grading of soil using excavators and scrapers
- Sampling of soil stockpiles
- The general hazards of being near or working in areas where heavy construction equipment are operating
- Electrical hazards
- Slip, trip, and fall hazards
- Back and muscular strains
- Noise
- Heat stress

This site consists of a 1.6-mile section of Guadalupe Creek and its associated floodplain with an unpaved levee road along one side of the creek. No buildings are present within the project site. The site is fenced and access by the general public is restricted. Access to the site by vehicles is through a controlled gate. No work will take place in offsite streets where other vehicular hazards could occur. The work will be accomplished in the summer and fall when temperatures can be high. Thus, heat stress is a concern for this field program. All work on this site will be conducted outside during daylight hours. No illumination besides natural lighting is necessary. No confined space entry or tunneling will occur as part of this field effort.

4.1.1 Excavating and Grading Hazards

Excavation and grading equipment must be operated by appropriately trained personnel. Onsite personnel on or near the equipment should wear appropriate protective equipment, including reflective vests, steel-toe boots, safety glasses and hard hats during field operations. An exclusion zone will be set around the excavation and grading areas to keep visitors away. All personnel should stand clear of moving/rotating equipment.

Prior to excavating, adequate site clearing should be performed to accommodate the equipment and supplies and provide a safe working area. Excavating or grading should not be started when tree limbs, unstable ground or site obstructions result in unsafe conditions. Cave-ins of excavations can occur due to inadequate benching or sloping. Site conditions can change due to weather, vibration of machinery, weight loading near the excavation edge, or varying soil types and properties. Excavations will be sloped to provide entry and will be less than 10 ft deep. Cal/OSHA requirements and safe practices for excavation and trenching will be followed including appropriate bench heights and slopes for the soil types encountered. A Cal/OSHA excavation permit is required for excavations deeper than 5 ft if empoyees will enter them. This permit will be obtained where necessary.

Special precautions must be taken when excavating on a site within the vicinity of electrical power lines and other utilities such as pressurized gas or oil pipelines or telemetry cables.

- Overhead and buried utilities will be located by notifying Underground Service Alert two days prior to excavation. The area to be excavated will be marked with white tape for visibility. The locations of identified underground hazards will be made by clearing shallow excavation by hand until the hazard can be clearly marked and avoided.

- The location of the Almaden Valley Pipeline and telemetry cable on Drawing sheet G-14 will both be determined by potholing prior to grading operations. The telemetry warning tape is located 18 inches below grade. If the proposed grades are within 6 feet of the Almaden Pipeline or 2 feet of the telemetry cable, the SCVWD Engineer will be notified before grading work begins.

- Large equipment will not be operated if the distance to a power line is less than 25 feet. Remember that hoist lines and overhead power lines can move toward each other by the wind.

- Heavy equipment will not be moved until all tools and components are secured.

- All construction equipment shall be equipped with properly operating back-up alarms.

4.1.2 Traffic Hazards

The planned activities at the site will require the use of heavy equipment and trucks on the site. Project field personnel working around the vehicles will wear orange highway vests to provide visibility. Offsite traffic control is not necessary, as access to the site by the general public is not allowed. Trucks will need to exercise caution when leaving the site for offsite hauling of wastes or transport of materials.

4.1.3 Slips, Trips, and Falls

The work areas shall be maintained in a neat and orderly state to minimize the possibility of slips, trips, and falls. Materials shall not be stored on the ground in areas where there is foot traffic. Tools and materials shall not be left randomly on the ground when not in use. When equipment are not in use, they shall be moved away from the work areas to minimize hazards.

The existing creek bank is steep in some places and the levee road is elevated about 5 feet above the level of the floodplain. Care will be taken when operating heavy equipment to avoid the edge of the bank or road.

4.1.4 Noise Hazards

Excessive noise can occur from operating heavy equipment. Excessive noise can cause physical damage to the ear. Ear protection will be used while working near noisy equipment. When working or present near such equipment, personnel will remain alert about ongoing activities around them and keep a safe distance from the equipment. They will abide by any specific safety guidelines issued by HSO and/or equipment operator.

4.1.5 Back and Muscular Strain

Proper lifting techniques will be used to pick up equipment and tools. These techniques include not lifting and twisting the body at the same time and using the legs to lift the item while keeping the load close to the centerline of the body. Heavy loads will be lifted with partners or equipment.

4.1.6 Heat Stress

Heat stress is a potential hazard at this site, since work is planned during the hot summer and early fall months. Heat stress is the accumulation of the body's burden of heat leading to an extremely dangerous rise in body core temperature. Climatic conditions may generate high ambient environmental temperatures exceeding 70°F from spring through fall and ranging up to greater than 100°F during the summer months. All personnel on this project will be subject to the heat stress phenomenon regardless of their job assignment. Some jobs will require more heat stress management than others due to the use of protective clothing or level of exertion.

The body's response to stress occurs in three stages:

- Alarm reaction in which the body recognizes the stressor and the pituitary-adreno-cortical system responds by increasing the heart rate and blood sugar level, decreasing digestive activity, and dilating the pupils.

- Adaptive stage in which the body repairs effect of stimulation and the stress symptoms disappear.

- Exhaustive stage in which the body can no longer adapt to stress and individual may develop emotional disturbances, and cardiovascular and renal diseases.

If the body's physiological processes fail to maintain a normal body temperature because of excessive heat, a number of symptoms can occur ranging from mild (such as heat rash, fatigue, irritability, anxiety, and decreased concentration, dexterity, or movement) to serious such as heat exhaustion and heat stroke. These conditions and appropriate measures are described below:

- Heat rash is a skin irritation resulting from prolonged contact with wet clothing. It can be prevented by allowing the skin to dry completely during rest periods and by showering at the end of the work day.

- Heat cramps, heat exhaustion, and heat stroke all result from excessive loss of body fluids and electrolytes. The symptoms of heat cramps are spasms in the abdomen or limbs. First aid for heat cramps includes resting the muscles for at least 4 hours, gently massaging the cramped muscles to relieve spasms, and drinking a fluid containing electrolytes.

- Heat exhaustion results from more severe dehydration. Symptoms include pale, clammy skin, profuse perspiration, weakness, headache, and nausea. Heat exhaustion can be a life-threatening condition, if not treated immediately. First aid for heat exhaustion includes removing the person from direct sun, loosening or removing clothing to allow for better air circulation, and having them drink fluids containing electrolytes. The person should rest for at least 24 hours before returning to the same duties.

- Heat stroke is a life-threatening condition that occurs when the body's temperature regulating system no longer functions properly. Symptoms include hot, dry skin: dizziness: a high fever (often 105 °F or higher): nausea: rapid pulse: and unconsciousness. Brain damage and death may follow if the temperature is not reduced. First aid for heat stoke includes taking immediate measures to cool the person by removing clothing, sponging off with water, removing the person from the direct sun, allowing the person to drink only small amounts of fluid, and transporting the person to a facility for medical attention.

4.2 PROTECTION FOR PHYSICAL HAZARDS

The following protection measures have been implemented to provide protection against the above physical hazards.

4.2.1 Head Protection

Field personnel are required to wear hard hats while excavation or other heavy equipment activities are being performed. Hats must meet American National Standards Institute (ANSI) standards, be worn properly, and not altered in any way that would decrease the degree of protection provided.

4.2.2 Foot Protection

Sturdy boots or steel-toed safety shoes are required to be worn while performing site operations. Open-toe footwear such as sandals are prohibited. Rubber boots will be required during operations involving the handling of surface or groundwater.

4.2.3 Eye Protection

Personnel will be required to wear eye protection (safety glasses with side shields) during all site operations. Eye protection use will be required to prevent injury from dust or flying debris. Goggles will be required when a potential splash hazard exists.

4.2.4 Noise Protection

Field personnel will be required to wear hearing protection (ear plugs or muffs) in high noise areas while disposal operations are being performed. If required, a sound level meter will be used to measure noise levels in the work areas. Hearing protection will be required when noise levels in the work area exceed 85 decimals measured on the A-scale. Perimeter noise monitoring will be conducted as necessary as decided by the HSO.

4.2.5 Heat Stress Protective Measures

Since the project will be done during hot months, the field personnel will be allowed adequate amounts of rest from the sun and water hydration. They will be monitored by the HSO for heat related illness.

General measures for preventative heat stress management are as follows:

- Have workers drink 8-16 ounces of water before beginning work, such as in the morning or after lunch. Provide disposable cups, and water that is maintained close to 50-60°F. Urge workers to drink additional fluids during the day. Substitute electrolyte replenishment solutions for water frequently, but not salt, salt supplements, or caffeinated beverages. Provide a cool area for rest breaks.

- Install hose-down facilities for workers to reduce body temperature and cool protective clothing, if feasible.
- Ensure that adequate shelter is available to protect personnel against heat, which can decrease physical efficiency and increase the probability of heat stress.
- Good hygienic standards must be maintained by frequent changes of clothing and showering. Clothing shall be permitted to dry during rest periods. Persons who notice skin problems shall immediately consult the HSO.
- Performing strenuous work earlier in the work day.
- Implementing a work/rest cycle with frequent rest periods.

4.2.6 Other Health-related Concerns

Other health related concerns may include biological hazards such as insect or snake bites. fire of dry grass. poison oak. and biological wastes. First aid kits for insect and snake bites will be available in the onsite trailer near Masson Dam within the controlled access area of the site. Biological wastes will be avoided if possible, or if removal is necessary will be placed in plastic bags using a shovel or other tool. Such tools will be cleaned with detergent and clean water following such uses. If discarded needles are found, they will be removed using gloves into heavy plastic bags and properly disposed. Any other health-related issues that arise will be addressed by the HSO as part of the tailgate safety briefings.

4.3 CHEMICAL HAZARDS

Based on the previous field investigations performed at the site. the soils located at the site were screened for mercury by depth and characteristics. Inorganic mercury was found in water. sediment and soil samples. Mean mercury concentrations are estimated as 10 mg/kg in surface soils. 19 mg/kg at the 6-inch and 2-foot sample depths, 24 mg/kg at 5-foot sample depth from the floodplain and bank soils. and 13 mg/kg at the 10-foot sample depth (Section 4.6.2.1.1 of EIR/EIS for project). The maximum mercury concentration in soil was 160 mg/kg in the floodplain samples and 2.[illegible]3 mg/kg in an upstream sample (Tetra Tech. 2000). The total mercury in the sediment ranged from 0.35 to 31.7 mg/kg on a dry weight basis. Methyl mercury was found in the sediments at low concentrations ranging from 0.0004 to 0.042 mg/kg on a dry weight basis. which is below the residential US EPA Region 9 preliminary remediation goals (PRGs[1]) for methyl mercury of 6.1 mg/kg. No elemental mercury was found in the sediment or soil samples.

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[1] PRGs are preliminary remediation goals set by US EPA Region 9 as a guide for the need for further evaluation to

Additional testing was conducted, as described in the Soil Management Plan (Tetra Tech, Inc., 2001) for other potentially toxic parameters. These parameters included volatile organic compounds (VOCs), PAHs, PCBs, and CAM 17 metals. No BTEX, PCBs, or PAHs were detected in the water or sediment samples from the creek collected in June 2000. TPH of diesel or heavier range were detected in some sediment and soil samples; most levels were low, less than 16 mg/kg. Low levels of delta BHC were detected in one sediment sample, and low levels of delta-BHC, heptachlor, 4,4-DDE, and 4,4-DDT were detected in some of the soil samples. However, all pesticide concentrations were less than the residential PRGs. These results indicate that organic compounds should not be of concern in this project. Asbestos was also measured in soil and sediment samples collected in June 2000, but none was detected.

The CAM 17 metals were measured in forty soil samples and four sediment samples collected in June 2000. None of the metals besides mercury exceeded the TTLC limits for designation as a hazardous material. WET leachate tests were also conducted, and none of the STLC limits were exceeded for any of the metals. The concentration ranges in the soil and sediment samples are listed in Table 1. The primary metal that is a potential health concern at this site is mercury. Mercury at high concentrations can cause effects on the central nervous system, brain, kidneys, and developing fetus. Adults are less sensitive to effects from mercury than children. There are inadequate data to assess the carcinogenic potential of mercury, so the US EPA does not classify mercury as a human carcinogen.

Exposure to COPCs found at the site would be expected to occur through ingestion, inhalation, or skin contact, mostly due to dust. Dust control measures will be implemented to reduce the generation and transport of dust as described in Section 5.4.7 of the EIR/EIS. Safe work practices, personal protective equipment, and vigilant personal hygiene will be emphasized to reduce exposure. Table 2 lists the metals found in site soils and the permissible exposure levels (PELs).

The herbicide Rodeo produced by Monsanto will be used in some areas with emerged aquatic weed and brush herbicide. This work will be conducted by appropriately trained workers prior to the excavation. The active ingredient is glysophosate. There is no OSHA PEL or ACGIH TLV for this compound, and is classified by the US EPA as a non-carcinogen. The herbicide can slightly irritate the eyes or skin. Control measures to avoid contact with skin, eyes, and breathing of mists. Workers will wash thoroughly after using the herbicide.

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determine if there are potential health concerns.

5. GENERAL SAFE WORK PRACTICES

5.1 PERFORMANCE REQUIREMENTS

Each subcontractor will be required to provide all the equipment necessary to meet safe operating practices and procedures for its personnel onsite and be responsible for the safety of its workers. All general safety guidelines and procedures will conform to 29 CFR 1910.120 (Title CCR, 5192).

5.2 GENERAL PRACTICES

The following safe work practices will be implemented at the Site for worker safety.

- Eating, drinking, chewing gum or tobacco, and smoking will not be allowed within the controlled access work zones; smoking will be allowed only in designated areas;

- Personnel will wash hands and face thoroughly with soap and water before eating, drinking, or smoking. Washing facilities have been set-up at the onsite trailer and the staging areas. Water is available in the supervisors' trucks.

- Containers such as with the herbicides will be labeled identifying their contents;

- At all times, there will be two or more people present, when working on the Site. The "buddy system" will be used when wearing any respiratory protective equipment. All Site personnel will be required to wear hard hats, protective glasses and adequate hand protection when on site.

- Before the start of site investigations, provisions will be made for water and restroom facilities. Bottled drinking water will be provided onsite at all times. Restroom facilities will be provided by a temporary mobile restroom.

- Field personnel and visitors will be required to wear a fluorescent orange safety vest and shirt or jacket at all times while on site. In addition, flags, tapes, barricades, and cones shall be used to designate all restricted areas.

- Avoid contact with potentially contaminated substances. Avoid walking through puddles or mud and avoid when possible sitting or kneeling on the ground. Do not remove dust from clothing by using compressed air or by shaking the clothing.

- All field workers should be aware of the conditions and the work going on near them, especially with heavy equipment. Any unusual circumstances (e.g., buried drums, containers, or debris, or strong, irritating odors should be reported to the HSO and field supervisor immediately.

- All employees will receive proper instruction in the use of any machinery they might operate and use of accompanying safety equipment, as well as hold all certifications necessary to operate said equipment.

- During the excavation process, the controlled access work zones and haul roads must be frequently misted with water to reduce airborne dust and avoid visible clouds of dust.

- If material such as buried drums, containers, or waste suspected to be hazardous are uncovered during excavation, work in that area shall cease immediately, the area secured, and the HSO and SCVWD engineer notified of the material.

- Equipment operators will maintain a safe distance from other vehicles; be alert to people on the ground, and allow spotters sufficient time to complete duties. Other personnel will be alert to moving vehicles and back-up alarms.

- Any equipment abnormalities or problems will be reported to the Field Supervisor. Equipment will not be investigated until it has been de-energized and the power source locked out. Guards on machinery will not be removed.

6. SITE ACCESS CONTROL AND WORK ZONES

6.1 SITE ACCESS

On site traffic control will be provided by Ferma. Access to the site will be controlled and restricted by on site security and Ferma personnel. Entry points to the site at the staging areas off Singletree Way and Almaden Expressway will be posted in accordance with Title 8 California Code of Regulations (CCR).

6.2 WORK ZONES

The areas where heavy equipment will be used to excavate soils in and near the creek channel and soil stockpile areas will be designated as limited access areas. The planned location of the excavation and stockpiles are shown in the Project Drawings in Appendix B. These areas will be designated as limited access prior to the beginning of work in that area. The excavation area will be reclassified following completion of the regrading in that section. The soil stockpiles will remain limited access areas until after testing and final disposition of the material. The perimeter of the limited access areas will be enclosed by fencing, caution tape and cones, or other means of delineation and will be inspected on a periodic basis by HSO to insure markings are present and that there are no unauthorized entries. Only specially-trained personnel who met Cal-OSHA-requirements for work with hazardous materials (i.e., 40-hour HAZWOPER certified) will be allowed to enter limited access areas. All visitors to the work zones must first obtain clearance from the HSO.

In the event that presently unidentified areas with concentrations of potentially hazardous levels of contaminants are identified, these areas will be designated as "limited access areas" and will be controlled through two points of entry and egress. These areas will be determined by the Project Superintendent in conjunction with the HSO. Three work zones will be designated around these areas as described below:

Contaminant Reduction Zone (CRZ): Immediately interior to the point of access for personnel will be an area designated as the Contaminant Reduction Zone. This area will be used for the decontamination of personnel and personal protective equipment. Equipment decontamination will be conducted in a separate area. Site access and decontamination stations shall be upwind of the prevailing wind direction.

Exclusion Zone (EZ): Excavation areas will be included in the Exclusion Zone. Movement of personnel, equipment and materials through the access point into the Exclusion Zone will be monitored by the Superintendent or his designee. Personnel will be required to wear appropriate personal protective equipment prior to entering the EZ. Egress of personnel and removal of equipment and materials will only be permitted after necessary decontamination in the designated CRZ. Eating, drinking and/or smoking will not be permitted after entry into any limited access areas.

Support Zone (SZ): The Support Zone covers the area immediately outside of the EZ and CRZ. The support area provides for administrative and support functions as necessary.

7. TRAINING

7.1 TRAINING REQUIREMENTS

All Ferma personnel working with potentially contaminated soil will have completed the 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training as per 29 CFR 1910.120 and have at least 24 hours of supervised field experience. All personnel assigned to tasks involving soil handling/disposal on the project will be within one year of HAZWOPER training or have completed a refresher training class within the last year. In addition, all supervisory personnel will have more than one year of experience in hazardous materials handling and have completed the 8-hour supervisory training for hazardous waste sites.

All other personnel will have received awareness training conducted by the HSO and attended the site-specific briefings for this project.

At a minimum, all field personnel working on this site must have read and understood this health and safety plan and have signed the Health and Safety Compliance Agreement Form. Copies of the Health and Safety Plan will be kept on site, easily accessible to all workers and authorized inspectors.

7.2 SITE SPECIFIC TRAINING

7.2.1 Initial Briefing

All field personnel will have awareness training regarding the potential physical and chemical hazards on this site. The initial briefing will be conducted by the HSO or designee and cover the purpose and objectives of the project, the types of work activities to be conducted, the potential hazards on the site, the site access and control measures, the general work practices including personal hygiene and the buddy system, safety procedures, planned control measures, and emergency response procedures.

7.2.2 Tailgate Safety Meetings

The Ferma HSO or Foreman will conduct safety meetings each Monday morning or as needed. These briefings will review the expected activities for the week and where these activities will be conducted. During the period of excavation, the location of the support and exclusion zones and soil stockpiles, decontamination procedures, and monitoring will be discussed. General safety procedures will be reviewed and any previously observed incidents or safety deficiencies will be discussed, with emphasis on how such incidents could be avoided in the future. Any changes to safety or work practices made by the HSO or amendments to the HSP will be presented.

7.2.3 Visitor Policy and Training Brief

All visitors to the site will sign a Daily Site Control Log. No visitor will be allowed into the exclusion work zones, described in Section 6.0 of the Health and Safety Plan without approval of the HSO. Visitors who have no specific responsibility in the exclusion and contamination reduction work zones will be restricted from entering these areas.

Visitors to the Site will be provided with the same information as discussed at the tailgate briefing or an equivalent overview by the HSO or designee. Visitors will stay outside the controlled access zone in the clear area. Visitors that have a need to observe work within the exclusion zone must wear the appropriate PPE and fully comply with the Health and Safety Plan. If respiratory protection is necessary within the exclusion zone, visitors must provide documentation that they have been given medical clearances and respiratory fit testing within the past year.

8. MEDICAL SURVEILLANCE PROGRAM

8.1 BASELINE

Preliminary site investigations and planned work practices will render unlikely over-exposure to site contaminants. However, it may be necessary in some areas of the Site for personnel to wear respiratory protective equipment. Accordingly, these personnel will be required to have completed the medical surveillance requirements associated with the wearing of respiratory protective equipment, as detailed in Title 8, California Code of Regulations.

It is not anticipated that field personnel will work in areas where they may be exposed to airborne contaminants above the applicable CAL/OSHA Permissible Exposure Limits (PELs) or Action Levels. If, through monitoring, potential exposure to site contaminants above the PELs is confirmed or suspected, additional medical surveillance may be required. This will be determined by the HSO.

To assure the continued health and well being of employees assigned to hazardous waste operations, a Medical Surveillance Program is administered to monitor the health of those employees whose work regularly poses the possibility of exposure to toxic materials. Participation in Ferma's Medical Surveillance Program is required for those who may need to use respiratory protection.

An initial or baseline examination is given prior to any work assignment involving potential exposure to hazardous materials. The examination consists of a complete medical examination designed to screen for evidence of adverse effects of occupational exposure to toxic substances. It includes a medical and occupational history review, examination, basic blood and urine laboratory tests, and a physician's evaluation. In addition, the examination shall assess the individual's ability to wear and use personal protective equipment (29 CFR 1910.34 and ANSI Z88.2 and Z88.6). The results of the examination shall be reviewed by a physician qualified in the practice of occupational and industrial medicine to determine the individual's fitness to perform field work and wear a respirator.

Each individual in the medical surveillance program shall receive an annual medical examination similar to the baseline examination. Any blood tests will be at the discretion of the physician and will be performed only, if recent potential exposure has occurred. Upon termination of employment or leaving the program, each employee will receive an exit examination.

8.2 EXPOSURE

An employee who becomes ill from unforeseen chemical exposure will be transported to the designated emergency medical facility for treatment. The examining physician will determine the content of the examination based on the type of exposure received. Medical attention will also be sought for employees that are injured while performing job duties or who have experienced heat exhaustion or heat stroke. The post-exposure examination will be conducted by a qualified physician certified in occupational medicine. The physician must assess that the person is fit to return to work before they can continue to participate in the onsite field activities.

9. PERSONAL PROTECTIVE EQUIPMENT

9.1 SELECTION CRITERIA FOR PPE

The use of personal protective equipment will vary according to the work being performed. Air monitoring will be conducted to determine the adequate level of protection required. Dust monitoring using a Mini-RAM will be used. If dust exceeds 1.5 mg/m^3 for over one minute, work will stop until dust control measures can be implemented to reduce the dust below 1.5 mg/m^3. If that is not possible, Level C respiratory protection may need to be implemented as determined by the HSO. Work in Level C will stop if dust levels exceed 5 mg/m^3.

9.2. STANDARD PPE FOR ONSITE PERSONNEL

Minimal personal protective equipment requirements are as follow:

- Safety glasses with side shields
- Substantial footwear
- Long pants and sleeved shirts
- Orange safety vests
- Leather work gloves as appropriate.

9.3 PPE IN CONTROLLED WORK ZONES

In limited access areas where employees are involving in excavating or handling contaminated soil, the following additional personal protective equipment may be required (as determined by the HSO), or as on needed basis:

- Tyvek coveralls (PV-coated "yellow" suits if excessive moisture saturates standard Tyvek suits)
- Steel-toed chemical resistant boots
- NIOSH/MSHA-approved half-mask air-purifying respirator with combination organic vapor/dust-fume-mist cartridges
- Chemical resistant gloves

In limited access zones, personal protective equipment is to be donned prior to entering the Contaminant Reduction Zone (CRZ) and removed in the designated changing/washing area of the CRZ. After each use, Tyvek suits and disposable gloves will be placed in appropriately marked bags or other containers and disposed of as hazardous waste. Disposable clothing is not to be re-used. Re-useable clothing such as boots, safety glasses, hard hats, and respiratory protection is to be decontaminated prior to going out of the support zone. Leather work gloves can be worn over the chemical resistant gloves. If so, the outer gloves should remain in the CRZ until after the work in that area is complete. No change in personal protective equipment shall be made without the approval of the HSO.

10. DECONTAMINATION PROCEDURES

10.1 PURPOSE OF DECONTAMINATION

Decontamination is the process of removing (or neutralizing) contaminants from personnel or equipment. When done properly, decontamination procedures protect the worker from contaminants that may have accumulated on PPE. tools, and other equipment. Proper decontamination also prevents transport of potentially harmful materials to unaffected areas. General guidelines on decontamination can be found in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH et. al., 1985).

In controlled work zones, decontamination is to occur in the designated contaminant reduction zone (CRZ). Decontamination stations will be located upwind from the prevailing wind direction. Additionally, reusable personal protective equipment, such as boots and respirators will be decontaminated in the CRZ prior to removal from the area.

10.2 NON-DISPOSABLE CLOTHING AND BOOTS

Decontamination requires removal of all visible contaminants. This will be accomplished by first rinsing boots with water and cleaning with brushes or rags. Commercial detergent or Alconox solution may be employed for objects which are difficult to clean with water. Contaminated brushes and rags are to be disposed of as hazardous waste. Additionally, materials which cannot be successfully cleaned of visible residue with water and detergent are to be disposed of as hazardous waste.

10.3 PERSONNEL PROTECTIVE EQUIPMENT

A temporary field decontamination (decon) station will be established near the exclusion area in the CRZ zone. Personnel performing work involving soil disturbance will inspect their clothing and equipment prior to leaving the work area and, if necessary, remove any potentially harmful substances that may have adhered to them. Brushes and water will be available in the decontamination zone to dislodge soil and mud from boots so that they will not be dragged out to the outside areas. All contaminated or potentially-contaminated disposable clothing will be placed into labeled 6-mil plastic bags and left on site for disposal as Investigative-Derived Waste. Water, towels, and soap will be available onsite. Personnel will shower completely at home at the end of each day.

If necessary, PPE will be decontaminated with potable water and a mixture of detergent and water. Liquid and solid waste and wash water produced during decontamination will be collected, drummed, and left on site for disposal as Investigation-Derived Waste. When decontamination is required, specific decontamination procedure will be as follows:

- Wash neoprene boots (or disposable booties) with a Alconox ® solution, and rinse them with water. Remove and retain neoprene boots for reuse, if possible. Place disposable booties in plastic bags for disposal.

- Wash outer gloves in a Alconox ® solution and rinse them in water. Remove outer gloves and place them in a plastic bag for disposal.

- Remove the Tyvek suit, if used, and place it in a plastic bag for disposal.

- Remove respirator, if applicable.

- Remove inner gloves, and place them in a plastic bag for disposal.

- Thoroughly wash hands and face with water and soap.

10.4 SAMPLING EQUIPMENT

Decontamination of all non-disposable sampling equipment used during site activities will be required. Soil sampling equipment will be decontaminated by washing with Alconox ® cleaning solutions, and then rinsing with tap water and a final deionized water rinse. All equipment rinse water and decontamination water will be stored in watertight 55-gallon drums onsite for temporary storage prior to disposal following regulatory protocol.

All equipment/tools used will be inspected prior to removal from the site. Dirt or mud that may be adhered to the equipment will be dislodged using a brush or water from a hose so that they will not be dragged to outside areas.

10.5 INSTRUMENTS

Monitoring equipment will be protected as much as possible from contamination by draping, masking, or otherwise covering as much of the instruments as possible with plastic without hindering the operation of the unit.

The contaminated instruments will be taken from the drop area and protective coverings removed and disposed of in appropriate containers. Any dirt or obvious contamination remaining will be brushed or wiped with a damp disposable paper wipe. The units can then be taken inside in a clear plastic tub, wiped off with damp disposable wipes and dried.

Many instrument manufacturers will not accept contaminated equipment for repair, and that a heavily contaminated piece of equipment, if improperly handled, may have to be disposed of as hazardous waste. The units will be checked, and recharged as necessary for the next day's operation. They will then be prepared with new protective coverings.

10.6 HANDLING OF CONTAMINATED WATER

Water from decontamination procedures will be collected and stored in water-tight 55-gallon drums prior to testing. Based on the results, the water will be disposed at an appropriate disposal site.

10.7 STORAGE OF CONTAMINATED MATERIALS

Excavated soil will be temporary stored at the designated stockpiling areas of the project site as shown in Figure 2. The soil will be retained for testing as per the Tetra Tech, Inc., soil management plan. Depending on the results, the soil will be reused onsite or designated for offsite disposal at a hazardous waste disposal site. Measures for protecting the stockpiles from erosion and dust emissions are specified in the Soil management Plan.

Decontamination wastes from the project such as disposable clothing will be stored in closed containers and disposed as hazardous wastes. Such materials will be stored in the controlled work zones near the soil stockpiles shown in the project drawings in Appendix B.

10.8 HEAVY EQUIPMENT AND VEHICLES

Heavy equipment used for excavation will be decontaminated in the CRZ nearest the excavation zone being worked on. Soil and dust will be removed by brushing off the equipment prior to exit from the CRZ. Trucks hauling soil off-site will be decontaminated by brushing the tires and truck body at the two staging areas allowing entry and exit to the project site, off Singletree Way and Almaden Expressway. Other construction vehicles used on the project will be decontaminated by brushing off at the two staging areas before travel offsite.

11. AIR MONITORING

Air quality surveys will be performed during site operations to measure airborne concentrations of constituents to meet CAL/OSHA requirements as needed. Dust monitoring will be performed using a Mini-RAM Airborne Particulate Monitor MIE PPM-3 or other approved instruments to verify that worker exposures to airborne dust are below the Cal-OSHA PELs. Samples for total particulates will be taken at the worker breathing zone. If the particulate concentration of 1.5 mg/m^3 is exceeded for 1 minute, work will stop and dust control measures will be implemented as specified in Section 5.4.7 of the EIR/EIS for the project.

If particulate monitoring results indicate continuing exposure levels for workers to be equal to or above permissible exposure limits, work practices will be reviewed with the workers to emphasize dust mitigation techniques. Furthermore. additional personal protective equipment may be required such as Level C respiratory protection using a half-face mask with a dust/organic vapor cartridge appropriate for mercury. Work will stop in Level C using a half-face mask if dust concentrations exceed 5 mg/m^3, the Cal/OSHA PEL for respirable particles.

The Mini-RAM is factory calibrated using a filter gravimetric reference. No calibration is required in the field. The unit will be zeroed prior to each work shift using the MIE Zero Bag. Upwind levels will be checked to determine if dust is being transported from offsite. If a problem arises that may indicate that the instrument calibration has been compromised. the unit will be replaced.

Air monitoring and further air sampling may be conducted as determined necessary by the HSO.

12. EMERGENCY PROCEDURES

12.1 GENERAL EMERGENCY PROCEDURES

Local ambulance and paramedic service are available for this site by calling 911. Their response time is 4 minutes. Whenever possible, arrangements should be made for on-site standby. Clear instructions must be given to emergency services for location to the site:

> NOTE: **If the injured person is inside a restricted area and cannot be safely moved without medical attention, make sure to ask for the Hazardous Materials Emergency Response Team. Regular paramedic personnel may not be willing to enter hazardous material areas.**

First-aid kits and equipment are available on-site at the following locations:

- All Foreman's Vehicles
- The onsite trailer at the entry point near Masson Dam

A sufficient number of appropriate size and type fire extinguishes shall be provided in all foreman's vehicles.

LOCAL EMERGENCY CONTACTS

Ambulance and Paramedics	911
Police	911
Fire	911
EPA Emergency Response	(908) 321-6660

12.2 EMERGENCY PHONE NUMBERS

Corporate Office Ferma Corporation	(650) 961-2742
Mark Abu-Tair Health & Safety Officer	Shop: (510) 794-0412 **Cell: (650) 245-1523**
Larry Ferrari Project Supervisor	(650) 961-2742
Ken Alameda Project Foreman	(408) 832-4899 **Cell: (408) 832-4899**
Alan Kilik Project Manager	(650) 961-2742 **Cell: (650) 245-271**

Dispatch: Vicki Pulliam ....(510) 794-0412

General Superintendent: Don Ferrari ....(510) 794-0412
Cell: (650) 245-2718

The above list of emergency phone numbers will be posted in the on site trailer at the entry point to the site off Singletree Drive.

12.3 DIRECTIONS TO HOSPITAL

Kaiser Permanente Medical Center – San Jose ....(408) 236-6400
250 Hospital Parkway
San Jose, CA 95119

Starting from: **Job site at Almaden Expressway, San Jose, CA 95118-3608**
Arriving at: 250 Hospital Parkway, San Jose. CA 95119-1103
Distance: 5.3 miles Approximate Travel Time: 7 minutes

Directions	**Miles**
1. Start out going South on ALMADEN EXWY by turning right.	0.2
2. Make U-turn on Coleman Road.	0.0
3. Turn onto ALMADEN EXWY.	0.6
4. Take the CA-85 South ramp.	0.1
5. Merge onto CA-84 S.	3.8
6. Take the COTTLE ROAD exit.	0.3
7. Turn RIGHT onto COTTLE RD.	0.2
8. Turn LEFT onto HOSPITAL PKWY.	0.1

A map to the hospital is shown in Figure 1. The Evacuation Area will be the staging area at Almaden Expressway inside the gate on the north side of Guadalupe Creek.

12.4 CONTINGENCY PLAN

The HSO will be responsible for coordinating emergency response. The HSO will be notified immediately of all emergencies. All injuries must be reported immediately to the HSO. The HSO and other supervisory personnel listed above will have the responsibility of responding to and correcting emergency situations. This may include taking appropriate measures to protect the safety of site personnel and the public. Possible action may involve evacuation of personnel from the area.

The general response procedure for project personnel in an emergency is as follows:

1) Upon hearing a continuous vehicle horn or being notified of an emergency, all operations will cease immediately. Power equipment will be shut down and operators will stand by

for instructions.

2) Individuals not assigned specific contingency response duties will proceed immediately to the construction staging area (safe site). Upon arrival at the safe site, a complete head count will be conducted by the Superintendent and/or his designee. Individuals will stay at the safe site until the emergency is secured or further instructions are given.

12.4.1 Fire/Explosion

- Notify all personnel within the immediate area of the fire.
- Evacuate the area in the event the fire cannot be extinguished safely.
- Go directly to the closest telephone and summon the Fire Department by dialing 911.

12.4.2 Personal Injuries

- All personal injuries must be reported to the supervisor immediately.
- Supervisors must report all worker injuries to the HSO immediately.
- First-aid trained personnel should administer first-aid to the injured party. If medical attention beyond first-aid is required, arrange for transportation to the hospital.
- If the Victim's injuries would potentially be aggravated by movement of the victim or the victim is unconscious and unable to respond. Call 911 Paramedics. If the victim is inside a restricted area, ask for the Hazardous Materials Emergency Response Team.

12.4.3 Potential Chemical Exposure

In the event of unforeseen circumstances which arise during excavation and handling of soil that results in potentially significant exposure, personnel are instructed to immediately inform their Superintendent and the HSO. The HSO will interview involved personnel to determine the nature of the circumstances and whether or not significant exposure may have occurred. Medical evaluations may be required for all personnel involved, as determined by the Superintendent and HSO.

12.4.4 Decontamination during Medical Emergencies

Often during emergencies, the need to quickly respond to an accident or injury must be weighed against the risk to the injured party from chemical exposure. It may be that the time lost or the additional handling of an injured person during the decontamination process may cause greater harm to the individual than from the exposure that would be received by undressing that person without proper decontamination. This decision will be made by the HSO.

An additional consideration to include when bypassing decontamination of injured personnel, is the acceptance of contaminated personnel at emergency facilities. Many facilities will not accept contaminated personnel. If such personnel are accepted, Site response personnel shall accompany contaminated victims to the medical facility to advise on matters involving decontamination. If the person cannot be moved out of an Exclusion Zone, the Hazardous Materials Response Team will be called for when 911 is called for paramedics and an ambulance.

12.4.5 Off-Site Spills of Contaminated Soil

Potentially contaminated soil will be stored and assessed as specified in the Tetra Tech. Inc., Soil Management Plan. Any waste that exceeds established limits such as TTLC and STLC criteria will be handled as Class I hazardous waste as per the Soil Management Plan.

Once the waste disposal truck leaves the site, it is the waste transportation contractor's responsibility to manage any off-site spill activities. Each driver will carry an information sheet or Material Safety Data Sheet (MSDS) that describes the nature and concentrations of the materials. This information will be placed with the manifest so that it will be immediately accessible to Contractor's emergency response personnel as necessary. Emergency services such as fire, medical or law enforcement will be requested by the driver either over the truck radio or by contacting 911 through a public phone or mobile phone.

Immediately, but in no case longer than 24 hours from the onset of such an event, the waste transportation contractor's will notify the Department of Toxic Substances Control (DTSC), Santa Clara County Department of Environmental Health, and Santa Clara County Hazardous Material Response Unit.

12.4.6 On Site Posting of Warning Signs

Necessary warning signs will be posted. All signs will be of in compliance with OSHA regulations and Proposition 65.

13. SUMMARY - HEALTH AND SAFETY PLAN

Project Location:	Guadalupe Creek between Almaden Expressway and Masson Dam San Jose, California
Ferma Project Manager:	Alan Kilik, (650) 961-2742
Health and Safety CIH:	Michael Ridosh. CIH (626) 351-4664 Tetra Tech, Inc. Subcontractor to Ferma
Ferma Site Safety Officer:	Mark Abu-Tair, Shop: (510) 792-0412 Cell: (650) 245-1523
Ferma Project Foreman:	Ken Alameda. (408) 832-4899
Planned Activities:	Channel and floodplain modifications involving excavation and regrading of soils and creek sediments. Following completion of soil work. the banks will be revegetated. The field work is scheduled to begin in July 2001 and be completed by the end of December. The soil excavation will be completed by mid-October.
Chemical Hazards:	Mercury. Possible chemicals include low levels of metals. petroleum hydrocarbons, and pesticides.
Initial PPE:	Level D (No respiratory protection with limited dermal protection)
Exclusion Zone:	Exclusion Zone boundary to be established initially at minimum distance of 25 feet from the outer perimeter of the area where heavy equipment will be performing excavation and around soil stockpiles. The Exclusion Zone boundary will be moved as necessary, but will be retained around the soil stockpiles.
Emergency Phone:	911
Regional Poison Control Center:	(800) 523-2222 (San Francisco)
Hospital:	Kaiser Permanente Medical Center – (408) 236-6400 Emergency 250 Hospital Parkway San Jose, CA 95119 From project site turn on Almaden Expressway going south, make u-turn at Coleman Road and go north on Almaden Expresswa. turn left onto CA-85 South ramp. merge onto CA-84S Take Cottle Road exit. Turn right on Cottle Road and turn left onto Hospital Parkway. (see map Figure 2).

14. HEALTH AND SAFETY PLAN AGREEMENT

I have reviewed the Project Specific Health & Safety Plan for the Project #301525 at the Guadalupe Creek Restoration Project from Alamden Expressway to Masson Dam in the City of San Jose, all within the boundaries of the Central Zone of the Santa Clara Valley Water District. I understand its purpose and consent to adhere to its policies, procedures, and guidelines while an employee of Ferma Corporation or its contractor (subcontractor).

Name	**Company**	**Date**

15. REFERENCES

Jones & Stokes, 2001. Guadalupe Creek Restoration Project EIR/EIS and Engineer's Report.

Santa Clara Valley Water District, 2001. Specifications for Guadalupe Creek Restoration Project 301525.

Tetra Tech, Inc., 2000. Guadalupe Creek Mercury Sampling Results.

Tetra Tech, Inc., 2001. Soil Management Plan for Guadalupe Creek Restoration Project.

Table 1

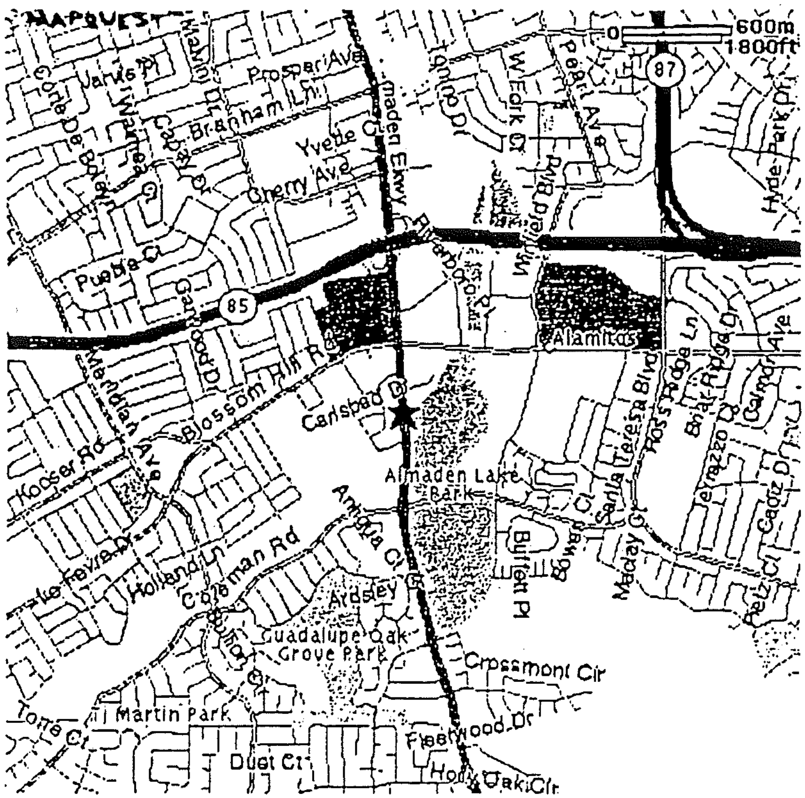
RANGE OF METALS MEASURED ONSITE

	Sediments, mg/kg	Bank Soils, mg/kg
Antimony	<5	<5
Arsenic	<5	<5
Barium	38.7 to 72.8	54.9 to 212
Beryllium	<0.5	<0.5
Cadmium	<0.5	<0.5
Chromium	[illegible].7 to 82	33.6 to 158
Cobalt	[illegible]3	25.2
Copper	8.[illegible]7	14.6 to 40.5
Lead	<5 to 7.29	<5 to 40.7
Mercury	[illegible] to 23.7	0.72 to 69
Molybdenum	<2.5	<2.5
Nickel	[illegible]5 to 129	53.3 to 304
Selenium	[illegible]	<5
Silver	<0.5	<0.5 to 0.535
Thallium	[illegible] to 22.7	7.47 to 22.6
Vanadium	[illegible]3 to 48.7	28.8 to 60.5
Zinc	[illegible] to 39.8	27.3 to 72.5

TABLE 2

METALS THAT MIGHT BE PRESENT ONSITE AND PEL LEVELS

Barium	10 mg/m^3 as inorganic compounds (e.g. $BaSO_4$)
Cobalt	0.02 mg/m^3 as dust
Chromium	0.5 mg/m^3 as dust
Copper	1 mg/m^3 as dust
Mercury	0.025 mg/m^3 TWA as dust to protect skin for inorganic compounds – ceiling is 0.1 mg/m^3
Lead	0.05 mg/m^3 as dust
Nickel	1 mg/m^3 as dust
Vanadium	0.05 mg/m^3 as respirable V_2O_5
Thallium	0.1 mg/m^3 as dust
Zinc	10 mg/m^3 as dust



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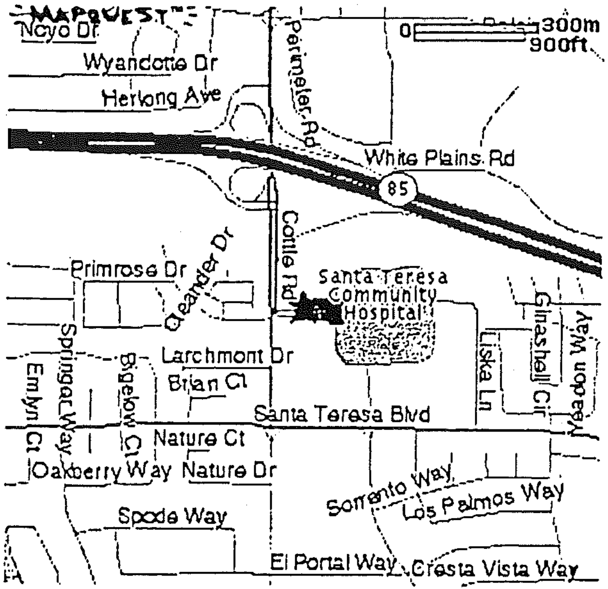

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Nearest Hospital

Directions	Miles
1. Start out going North on ALMADEN EXWY	
2. Take the CA-85 SOUTH ramp.	0.1
3. Merge onto CA-85 S.	3.8
4. Take the COTTLE ROAD exit.	0.3
5. Turn RIGHT onto COTTLE RD.	0.2
6. Turn LEFT onto HOSPITAL PKWY.	0.1

APPENDIX H

- Guadalupe Creek Restoration Project Permits

March 3, 1849

United States Department of the Interior
Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO:
1-1-00-F-176

August 16, 2000

Mr. Mark Capik
Chief, Planning Division
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Formal Endangered Species Consultation on the Guadalupe River Project, Downtown San Jose, California

Dear Mr. Capik:

This is in response to your March 10, 2000, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the Guadalupe River Project (Segments 3A-C) in downtown San Jose in Santa Clara County, California. Your request was received in our office on March 14, 2000. This document represents the Service's biological opinion on the effects of the action on western snowy plover (*Charadrius alexandrinus nivosus*) (snowy plover) in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act). We have determined that the project, as proposed, is not likely to adversely affect California red-legged frog (*Rana aurora draytonii*), salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*), and California clapper rail (*Rallus longirostris obsoletus*), and these species are not addressed further in this document.

In addition to consulting with the Service, the U.S. Army Corps of Engineers (Corps) should coordinate with the National Marine Fisheries Service on project impacts to listed anadromous fish that occur within the project area.

This biological opinion is based on information provided in the March 3, 2000, biological assessment, a meeting between the Service and the U.S. Army Corps of Engineers (Corps) on December 7, 1999, and e-mail correspondence between Nina Bicknese of the Corps and Carmen Thomas of the Service on February 6, 2000, and February 28, 2000, field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office.

Consultation History

6/99	The Corps submitted a Biological Assessment and biological data report for Segment 3C Phase 1 of the Guadalupe River Project in the city of San Jose and requested concurrence from the Service on a determination that the project was not likely to adversely affect listed/proposed threatened or endangered species.
6/23/99	The Service concurred with the findings of the Corps' June 1999, Biological Assessment and Biological Data Report (Service file no.: 1-1-99-I-1771).
8/30/99	The Corps requested an updated species list.
9/29/99	The Service provided the Corps with an updated species list (Service file no.: 1-1-99-SP-2052).
12/7/99	The Service met with the Corps to discuss species to include in the effects analyses for downtown San Jose (segments 3A and 3B) of the Guadalupe River Project. The Service recommended consideration of the red-legged frog, snowy plover, clapper rail, and harvest mouse.
2/6/00	The Corps requested comments from the Service on a draft Biological Assessment for segments 3A and 3B.
2/28/00	The Service provided comments on the draft Biological Assessment (Service file no.: 1-1-00-I-1450).
3/14/00	The Corps requested formal consultation with the Service on Phase 5, segments 3A and 3B, of the Guadalupe River Project in the city of San Jose (Service file no.: 1-1-00-I-1450).
5/25/00	The Corps requested an updated species list.
6/24/00	The Service provided an updated species list (Service file no.: 00-SP-1905).

BIOLOGICAL OPINION

Description of the Proposed Action

The Downtown Guadalupe River Flood Control Project (Guadalupe River Project) is a phased project authorized by Congress to provide 100 year flood protection to downtown San Jose. The Service previously consulted on the project in 1984 and concluded that the project was not likely to adversely affect any listed species. Construction on the project began in 1992, but the third and final project phase was stopped in 1996 due to concerns regarding the adequacy of proposed mitigation and additional listings of threatened/endangered species. This consultation covers only the impacts of Phase 3 (Segments A-C) of the Guadalupe River Project in downtown San Jose. The Service recognizes however, that Santa Clara Valley Water District (SCVWD) operates the larger water control system (of which the Guadalupe River Project is part), which impacts western snowy plovers through occasional flooding of nesting habitat.

The Service has determined that the proposed action is not likely to result in adverse impacts to red-legged frogs, harvest mice, and clapper rails. This determination is based on current information presented to us by the project proponent (SCVWD and Corps). This information includes an analysis of the past and current condition of habitats suitable for these species at the outlet for this flood control system-Alviso and Guadalupe Sloughs-as well as the projected impacts with the operation of this project. However, the project proponents have proposed a monitoring strategy that will evaluate the future project operations and the effects-or lack thereof-to habitats suitable for harvest mice and clapper rails. The Service will evaluate the results of this monitoring and determinations for these species may be reevaluated in the future.

The proposed Guadalupe River Project (GRP) will be constructed along 2.6 miles of the Guadalupe River between Grant Street (just north of highway I-280) and I-880, in downtown San Jose, Santa Clara County, California (see Figures 1 and 2). The Service previously consulted on Segments 1 and 2 of the GRP between I-800 and Coleman Avenue (Service file no.: 1-1-99-I-1771), and construction was completed in 1996. The unconstructed portions of the GRP (the proposed project) are located between Coleman Avenue and Grant Street. The proposed project is divided into three segments, 3A, 3B, and 3C. Segment 3A is located between Coleman Avenue and New Julian Street, Segment 3B is located between New Julian Street and Park Avenue, and Segment 3C is located at the upstream end of the GRP between Woz Way and Grant Street. An underground culvert bypass will be constructed on the east bank in Segment 3A and part of the east bank of Segment 3B. Two inlets for the culvert will be near the West Santa Clara Street bridge, and a third inlet will be downstream from the Los Gatos Creek confluence with the Guadalupe River. The outlets for the culvert will be near the Coleman Avenue bridge. Bank armoring is proposed at the culvert inlets and outlets and under the New Julian bridge. Segment 3C is separated from segments 3A and 3B by the existing Woz Way-Park Avenue bypass reach. This bypass reach is not part of this project and therefore not considered in this biological opinion. Section 3C Phase 2 includes construction of an inlet, and section 3B includes construction of the outlet to the existing Woz Way to Park Avenue bypass. Construction of flood protection in segments 3A through 3C is scheduled for 2001-2002.

Segment 3A: There will be approximately 695 linear feet (lf) of west riverbank and river bottom armoring in Segment 3A using gabions to armor the toe of the slope and stone terraces to armor the river bank (Figure 2). A wheel-chair accessible ramp would be installed on the west bank armoring to allow pedestrian-trail passage under the Coleman Avenue Bridge. On the east bank, there will be approximately 745 lf of bank armoring. Gabions will armor the toe of the slope and a vertical retaining wall will armor the river bank. Approximately 200 lf of the east bank may also be armored with gabions at the New Julian Street Bridge to provide for a pedestrian undercrossing of the bridge. The river bottom will be armored with concrete cellular mattresses upstream and below the Coleman Avenue Bridge for 695 lf. The armored river bottom would contain a low-flow channel with 5 to 7 concrete check structures. The low flow channel with check structure design will use concrete sills with, logs, boulders, and gravel placed at grade and on top of the concrete cellular mattress-armored river bottom to concentrate low flows into the channel. The check-structure sills would be placed at spacing of 200 to 300 feet within the low-flow channel of the armored channel bed. Construction of the bottom armoring and the low flow channel check structures requires diverting the water from the work area. The outlet structures for the proposed bypass system will be located in Segment 3A near Coleman Avenue. The inlets and outlets of the proposed bypass system will remain closed with bulkhead retaining walls and the downtown Guadalupe River Project will not be made operational until SCVWD completes the Lower Guadalupe River Project.

Between 9 and 15 invert stabilization structures (small weirs) will be placed in the channel bed in the unarmored sections of Segments 3A and 3B between Coleman Avenue and Santa Clara Street. The footings of the invert stabilization structures will be constructed of concrete. Logs will be fastened to the top of the footings to create drops in grade between structures of one foot or less. Construction of the invert stabilization structures will require that water be diverted from the construction area. The invert stabilization structures and the previously mentioned low-flow channel check structures will be built using a front-end loader and backhoes. A trench approximately 3 to 4 feet deep by 2 feet wide will be excavated in the channel bed. Steel reinforcing will be placed within the framework, and concrete will be pumped through an overhead delivery system to avoid impacts on riparian vegetation growing on the banks of Segments 3A (and 3B). The concrete will be pumped from trucks at road crossings or at unvegetated areas on the top of the bank. After the concrete cures, the formwork will be removed, and suitable channel bed material will be used to backfill the trench.

Union Pacific Railroad (UPRR) bridges 3 and 4 will be removed, and it is assumed that bridge 4 will be replaced by others outside of this project. The Old Julian Street Bridge may also be removed. The sewer line that crosses the river under the New Julian Street Bridge will be removed and replaced with a line under the river on the downstream side of the bridge. The new sewer line will be constructed beneath the river using a sewer siphon system.

3A Recreational Trails: Recreational trails in Segment 3A include an 18-foot wide asphalt trail/maintenance road on the top of both the east and west banks from New Julian Street to Coleman Avenue. The eastern bank trail will cross the under the New Julian Street Bridge with stairs on the upstream and downstream side of New Julian Street to allow pedestrian access under the bridge. The top-of-bank trail will continue downstream to the bank armoring near Coleman Avenue, where it descends and passes under the Coleman Avenue Bridge. On the western bank, the trail will cross under the New Julian Bridge and continue on top of bank to the armored bank area near Coleman Avenue. Here a 300-foot-long wheelchair-accessible ramp will cross under the Coleman Avenue Bridge to connect with the existing trail system in GRP Segments 1 and 2.

Segment 3B: There will be approximately 1,861 lf of riverbank armoring on the west bank, 2,231 lf of river bank armoring on the east bank, and 1,940 lf of river bottom armoring between West Santa Clara Street and Park Avenue. East bank armoring will include gabions at the toe of the slope and stone terraces on the slope. West bank armoring will include a vertical concrete retaining wall between 18 and 22 feet high. The river bottom will be armored with concrete cellular mattresses and contain a low-flow channel with check structures, as previously described. A new sewer line will be constructed under the armored channel bottom downstream from West Santa Clara Street. The outlet structure for the existing Woz Way to Park Avenue Bypass will be part of the Segment 3B construction. The outlet for this Bypass will also be covered with a bulkhead retaining wall to prevent operation of the GRP until the Lower Project is completed. A U.S. Geological Survey gaging weir upstream from the St. John Street bridge will be removed and replaced with an invert stabilization structure, which will be installed as described above and without impacts to existing shaded riverine aquatic habitat. The Saint John Street bridge may be demolished. If demolished, the bridge would be replaced with a pedestrian/maintenance bridge, which which would cause disturbance to riverbed substrate and vegetation on both banks. Currently, there is a sewer line beneath the bridge. If the bridge is demolished, a replacement line would be constructed, using a sewer siphon system, beneath the river on the downstream side of the bridge.

3B Recreational Trails: On the east bank, the pedestrian trail/maintenance road will continue from the existing Woz Way to Park Avenue trail. There will be two 18-foot-wide trails between Park Avenue and Santa Clara Street, one top-of-bank trail, and another 6 feet above summer water level on top of the stone terraces. The top-of–bank trail will have stairs down to the river at Park Avenue, San Fernando Street, and West Santa Clara. On the west bank the trail will continue from the existing Woz Way to San Fernando and terminate in a switch-back ramp up to a pedestrian overlook.

Segment 3C Phase 2 (3CP2): There will be 1,250 lf of armoring on the west bank of the river between Woz Way and Grant Street, using gabions at the toe of the slope and rock terraces on the bank. Approximately 730 lf of armoring will be constructed on the east bank between previous segment 3C Phase 1 work and Grant Street. This armoring includes gabions at the toe of the slope and stone terraces on the river bank. The river bottom will be armored with concrete cellular mattresses and concrete for 1,045 ft. and will contain a NMFS and Service-approved trapezoidal/boulder low-flow channel for fish passage. The inlet structure for the existing Woz Way to Park Avenue Bypass will be constructed on the west bank as part of this phase. A concrete weir will be included in the Woz-Way/Park Avenue bypass inlet. The inlet will remain closed with a bulkhead retaining wall until the Lower Guadalupe River Project is completed and the downtown GRP (this project) is operational.

3CP2 Recreational Trails: A trail system with a top-of-bank trail and a trail six ft. above the summer water level along the armored bank will be constructed on the west bank between Woz Way and I-280. A stairway and handicap access ramp will be constructed on the west bank upstream from the Woz Way bridge. An 18 foot wide trail will be constructed on the east bank between Woz Way and Grant Avenue, with an access point constructed downstream from Grant Street. This access point will include either stairs or a ramp.

Segment 3C Phase 3(3CP3): There will be a total of 1,833 lf of flood-training walls made of concrete or concrete masonry units in the Interstate 280 (I-280)/Route 87 interchange area. The flood-training walls will direct overbank flood flows from above the project into the river channel. On the east side of the river, 860 lf of flood-training walls will be constructed between the I-280 bridge abutment and Almaden Avenue. On the west bank of the river, 973 lf of flood-training wall will be constructed in the I-280/ Route 87 interchange area. An additional 620 lf of earthen berm will also be constructed in this area. Wall and berm height will vary from 0.5 to 4.5 feet.

3CP3 Recreational Trails: An 18 ft. wide asphalt trail/maintenance access road will be constructed on top of both banks of segment 3A between New Julian Street and Coleman Avenue. In Segment 3B, there will be two trails on the east bank between Park Avenue and Santa Clara Street: a 12 ft. wide trail on top of the stone terraces, six feet above summer water level; and an 18 ft. wide trail/maintenance access road on top of the bank. On the west bank of Segment 3B, the existing Woz Way-Park Avenue trial will be extended under Park Avenue and terminate at the proposed pedestrian overlook.

Conservation Measures

The following measures have been proposed to minimize and avoid impacts to listed species. All conservation measures will be completed before or concurrent with construction work.

Downstream of the proposed project are a number of salt ponds owned and operated by Cargill Salt (A5-A12, see Figure 3). Under existing conditions, flows in Alviso Slough (the Guadalupe River flows into Alviso Slough just downstream of the city of San Jose) greater than approximately 6,400 cubic feet per second begin to overtop the west bank levee near the city of Alviso. The overtopping causes water to flow into Pond A8W. When water in Pond A8W reaches a depth of approximately 1.5 feet, it flows into Pond A8D. Snowy plovers nest in ponds A6 and A8D; nests in Pond A8D are currently at risk of inundation during flood events.

To minimize and avoid impacts to snowy plovers, Pond A8 will be pumped when snowy plover nests are at risk from inundation, or when water depth exceeds a maximum standard determined by the Service. In addition, project sponsors will monitor flood flows and surface water levels in Alviso Slough and evaporation pond A8D to determine whether changes occur as a result of the GRP construction. Data will be summarized and presented to the Service on a bi-annual basis. Monitoring methods for the evaporation pond will be approved by the Service prior to implementation.

Status of the Species

On March 5, 1993, the Pacific coast population of the western snowy plover (*Charadrius alexandrinus nivosus*) (snowy plover) was listed as threatened under provisions of the Endangered Species Act of 1973, as amended (58 FR 12864). In California, the western snowy plover has been classified by the California Department of Fish and Game as a "species of special concern" throughout all of California since 1978 and is likely to continue to be retained as such in the pending list revision (K. Hunting pers. comm. 1999). A detailed account of the taxonomy, ecology, and biology of the snowy plover is presented in the listing package (58 FR 12864) and critical habitat rule (64 FR 68508). Supplemental information is provided below.

Although the majority of snowy plovers are site-faithful, returning to the same breeding site in subsequent breeding seasons, some also disperse within and between years (Warriner *et al.* 1986, Stenzel *et al.* 1994). Birds occasionally nest in the exact location as the previous year (Warriner *et al.* 1986). Snowy plovers renest readily after loss of their eggs (Wilson 1980, Warriner *et al.* 1986). After losing a clutch or brood or successfully hatching a nest, plovers may renest at the same site or move up to several hundred miles to nest at other sites (Stenzel *et al.* 1994, Powell *et al.* 1997). Renesting occurs 2 to 14 days after failure of a clutch and up to 5 renesting attempts have been observed for a pair (Warriner *et al.* 1986). The first chick hatched remains in or near the nest until other eggs (or at least the second egg) hatch. The adult plover, while incubating the eggs, also broods the first chick. Plover chicks are precocial, leaving the nest within hours after hatching to search for food. They are not able to fly for approximately 4 weeks after hatching; fledging requires 28 to 33 days (mean 31 days) (Warriner *et al.* 1986).

Overall, western snowy plover numbers have declined on the U.S. Pacific coast over the past century. Habitat degradation caused by human disturbance, urban development, introduced beachgrass (*Ammophila* spp.), and expanding predator populations have resulted in a decline in active nesting areas and in the size of the breeding and wintering populations (58 **FR** 12864). In the south Bay, water diversion/impoundments, salt pond operations, impaired water quality, and natural factors (*e.g.* inclement weather) continue to affect the quality and quantity of snowy plover habitat (58 **FR** 12864). The reasons for decline and degree of threats vary by geographic location.

Water diversion and impoundment of creeks and rivers may negatively affect snowy plover habitat by reducing sand delivery to beaches and degrading water quality. Water diversions are a major threat to snowy plovers when they impair hydrologic processes (such as migration of creek and river mouths) that maintain open habitat at river and creek mouths by retarding the spread of introduced beachgrass (*Ammophila* spp.) and other vegetation. Water diversion, impoundment or stabilization activities could include construction of dams and irrigation, flood control and municipal water development projects.

Salt ponds of San Francisco Bay and San Diego Bay, which are filled and drained as part of the salt production process, provide breeding and wintering habitat for snowy plovers. Dry salt ponds and unvegetated salt pond levees are used as plover nesting habitat. Ponds with shallow water provide important foraging habitat for plovers. However, drying and refilling of ponds during the nesting season can first attract nesting plovers to the area and then destroy the nests due to flooding. Also, human disturbance resulting from maintenance activities associated with the operation of commercial salt ponds (*i.e.*, levee reconstruction and maintenance of facilities) can result the loss of snowy plovers and alteration or disturbance of their habitat. If conducted during the snowy plover breeding season, reconstruction of salt pond levees could destroy snowy plover nests. Maintenance activities which are conducted by vehicles, on foot, or through the use of dredging equipment could result in direct mortality or harassment of snowy plovers (see dredging, pedestrian and motorized vehicle sections).

Many areas used as habitat by snowy plovers contain channelized streams or outfalls receiving run-off from urban, industrial and agricultural areas. Non-point sources of water pollution (including hydrocarbons, heavy metals, and commercial and household chemicals) could end up at coastal beaches used as plover foraging areas. In 1995, three dead male plovers (all banded and local breeders) were found in an area containing local outfalls, including an outfall connected to a sewage treatment plant at Monterey Bay. By the beginning of the next breeding season, it was discovered that another male snowy plover from this area disappeared and possibly died. One of the birds was analyzed through necropsy and found to have an enlarged liver, but it could not be determined whether there was a relationship between the mortality and the outfall (Point Reyes Bird Observatory unpubl. data).

Critical habitat was established for the snowy plover on December 7, 1999. In California, a total of 19 areas along the coast were designated as critical habitat areas. No critical habitat was designated for Santa Clara County where the project occurs.

Environmental Baseline

It is not known whether the snowy plover historically nested in San Francisco Bay prior to the construction of salt evaporator ponds beginning in 1860 (Ryan and Parkin 1998). However, snowy plovers have wintered on San Francisco Bay since at least the late 1800s, as indicated by a specimen dated November 8, 1889, in the California Museum of Vertebrate Zoology (Grinnell *et al.* 1918). Surveys conducted during 1977-1980 estimated 1,593 adult snowy plovers along coastal California (Page and Stenzel 1981). As of 1980, the snowy plover had disappeared from significant parts of its coastal California breeding range. It was absent from previously identified breeding beaches in San Diego, Los Angeles, Orange, Ventura, Santa Barbara, Santa Cruz, and Sonoma counties. Subsequent coast-wide surveys by Point Reyes Bird Observatory in 1989 and 1991 indicated a further decline in numbers of breeding adult plovers during the decade after the 1977-1980 survey. The decline was approximately 40 percent in San Francisco Bay. The most recent coast-wide survey was conducted in 1995, and suggested a further 17.3 percent decline in the number of breeding plovers. This constitutes an overall decline of 21 percent since the initial surveys of 1977-1980. Because San Francisco Bay was not surveyed in 1995, it is not known whether numbers there have changed from 1991 levels. When last surveyed in 1991, just over 200 adults were counted during the breeding season in San Francisco Bay. Almost all were in salt evaporation ponds in south San Francisco Bay.

Snowy plovers were recorded nesting on salt evaporation pond levees in Alviso as early as 1947 (Smith and Smith 1947). Breeding was confirmed in the Alviso salt ponds annually during the 1950s (Linsdale 1951, Sibley 1952, Cogwell 1956, Williams 1957, Cutler and Pugh 1959), with a high of 14 nests found in 1955 (Smith 1955). In 1971, Gill (1972) found nesting snowy plovers on the Knapp Gun Club property near the mouth of Alviso Slough. Page and Stenzel (1979) recorded snowy plovers in each of the three salt evaporation ponds bordering the south side of Alviso Slough (A6, A7, and A8).

Nesting snowy plovers have recently been recorded in salt evaporation ponds A6 and A8 (Ryan and Parkin 1988) (Figure 3). Snowy plovers were observed in pond A6 every year between 1986 and 1994; breeding was confirmed during five of the nine years. Snowy plovers were also observed almost annually in pond A8 between 1981 and 1997; breeding was confirmed during nine of the 11 years. The San Francisco Bird Observatory did not conduct surveys on pond A8 in 1989 or 1993, however, incidental observations detected snowy plovers on the pond in both years (USACOE 2000). In addition, H.T. Harvey and Associates surveyed pond A8 in 1998 and 1999, and observed nesting snowy plovers both years (USACOE 2000).

Snowy plovers have occasionally been observed foraging in the diked evaporation ponds on the northeast side of Alviso Slough (ponds A9-A12) by birders. However, these ponds usually contain water year-round, making them unlikely places for plovers to nest. The only recent nesting record in the vicinity of these evaporation ponds consists of one to two pairs that have nested in some years in a small impoundment between pond A12 and the railroad tracks, north of the Alviso marina (USACOE 2000).

Effects of the Proposed Action

Construction of the GRP, as currently described, will not result in direct effects on the western snowy plover. However, indirect effects to snowy plovers nesting in the Alviso salt ponds (especially pond A8W and A8D), may result from flood events. Because the salt ponds are downstream of the GRP, they remain within the action area as defined by 50 CFR § 402.02. Under existing conditions, flows in Alviso Slough greater than approximately 6,400 cubic feet per second (cfs) begin to overtop the west bank levee near the city of Alviso. The overtopping causes water to flow into Pond A8W. When the water depth in Pond A8W reaches 1.5 feet, it then flows into Pond A8D. Plovers currently nest in Pond A8D but have not recently nested in Pond A8W.

Any flooding that occurs during the snowy plover breeding season (mid-March through mid-September) may reduce or eliminate breeding success in Pond A8D for that year. The minimization measures are fully described in the Project Description section. In brief, if Pond A8D is flooded after the initiation of this project, the project proponents will pump Pond A8D when the water level exceeds a maximum depth determined by the Service, or when snowy plover nests are at risk from inundation. In addition, the project sponsors will monitor flood flows and surface water levels in Alviso Slough and in evaporation pond A8D. The goal of the monitoring is to determine whether flood frequency or inundation period within pond A8D changes as a result of the GRP. The monitoring program is described in the Biological Data Report (USACE 2000), and will be approved by the Service prior to being implemented.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects of the proposed project on snowy plovers will include potentially compromised levee strength surrounding Pond A8, due to increased velocities in Guadalupe River and Alviso Slough. Many of the channel improvements proposed by this project consist of a hard surface, such as concrete or riprap. This 'hardscape' in the bed and on the banks of a river increases flow velocities, which places downstream levees at greater risk of damage and failure.

Conclusion

After reviewing the current status of western snowy plovers, the environmental baseline for the action area, the effects of the proposed Guadalupe River Project in downtown San Jose and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of this species. Critical habitat for the western snowy plover has been designated in Humboldt, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and San Diego counties, however, this action does not affect that area and no destruction or adverse modification of critical habitat is anticipated.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service does not anticipate the proposed action will incidentally take any western snowy plover adults, chicks, or eggs. Therefore, no take of snowy plover adults, chicks, or eggs is authorized. This project does not occur within designated critical habitat for western snowy plover; therefore none will be impacted.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the listed wildlife species in this opinion or result in destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The Sacramento Fish and Wildlife Office (SFWO) believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the western snowy plover:

> The potential for harassment, harm, injury and mortality to the western snowy plover must be minimized.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The Corps shall assure that a monitoring plan of habitat change is developed and approved by the Service and implemented prior to construction of the Downtown Guadalupe River Project.

2. The Corps shall assure that levees around salt ponds A8W, A8D, A7, A6, A10, A11, and A12 are inspected for weakness during flood conditions.

3. If the previously mentioned levees show any sign of weakness or fail, the Corps shall take immediate remedial measures, in consultation with the Service.

4. Any installation of pumps to salt ponds A8W or A8D shall occur outside the sensitive period for western snowy plovers of March 1 through September 30.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take on a species that might result from the proposed action. The Service believes that no (0) adults, chicks, or eggs of western snowy plovers will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

The SFWO is to be notified within three working days of the finding of any dead listed wildlife species or any unanticipated harm to the species addressed in this biological opinion. The Service contact person for this is Karen J. Miller, Chief, Endangered Species Division at (916) 414-6620.

The Corps must provide the Service with annual reports to describe the progress of implementation of all the commitments in the Conservation Measures and Terms and Conditions sections of this biological opinion. The first report is due by the end of the second calendar year following initiation of project construction.

The Corps must require the city of San Jose to report to the Service immediately any information about take or suspected take of listed wildlife species not authorized in this opinion. The Corps must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident of the incident or of the finding of a dead or injured animal. The Service contact person is Cay C. Goude, Assistant Field Supervisor for Endangered Species and Environmental Contaminants, at (916) 414-6700.

Any contractor or employee who during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured western snowy plover. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

The U.S. Fish and Wildlife Service Regional Office in Portland, Oregon, must be notified immediately if any dead or sick listed wildlife species is found in or adjacent to pesticide-treated areas. Cause of death or illness, if known, also should be conveyed to this office. The appropriate contact is Richard Hill at (503) 231-6241.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. To assure the long-term viability of snowy plover populations, their breeding habitat should be monitored and managed in a systematic, ongoing fashion to measure progress towards recovery and identify management and protection efforts that are needed. Land managers should recognize that components of breeding habitat include: areas where plovers prospect for nesting sites, make scrapes, lay eggs, feed, rest, and rear broods. Breeding habitat also includes travel corridors between nesting, resting, brood-rearing, and foraging areas.

    a. The number of breeding adults should be recorded on an annual basis.

    b. Productivity, expressed as young fledged per male, should be recorded annually to minimize the banding of birds.

    c. Annual survival rates of adults should be recorded annually.

All of the above data should be reported to the SFWO.

2. Future projects should avoid development that will destroy or degrade western snowy plover breeding/foraging habitat.

    a. Construction of rock jetties should be avoided when it would result in eroded beaches and sandspits. Inlet stabilization and breaches of beach or dune habitat should also be discouraged if these actions would interfere with natural inlet formation, closure, and migration processes which maintain availability of plover habitat.

    b. Sand removal and dredging should be avoided when they would alter the natural patterns of erosion and deposition of coastal dunes. Water diversion and impoundment of creeks and rivers should be avoided when they would reduce sand delivery to beaches or interfere with maintenance of open habitat at river and creek mouths.

c. Coastal ponds and playas, including salt ponds, should be enhanced and created to improve breeding habitat. Significant opportunities for management of nesting plovers currently exist within San Francisco Bay salt ponds. However, salt ponds should only be created or enhanced at existing salt pond habitat; they should not be used for mitigation or compensation of coastal beach-dune or other snowy plover habitats.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the action(s) outlined in the (request or reinitiation request). As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals that the agency action may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Ken Sanchez of this office at (916) 414-6625, if you have any questions. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 414-6580.

Sincerely,

Karen J Miller

Cay C. Goude
Acting Field Supervisor

Enclosures

cc: NMFS. Santa Rosa, CA
EPA-Region IX, San Francisco, CA
CDFG, Region III, Yountville, CA
Santa Clara Valley Water District, Sunnyvale, CA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

MAY 30 2001

In response refer to
151422-SWR01-SR-357:GRS

Kenneth E. Hitch, P.E.
Chief, Planning Division
Sacramento District, USACE
1325 J Street
Sacramento, California 95814-2922

Dear Mr. Hitch:

Thank you for your letter of May 11, 2001, requesting reinitiation of consultation on the downtown Guadalupe River Project (Project). On August 11, 2000, the National Marine Fisheries Service (NMFS) issued a biological opinion to the Corps of Engineers (Corps) that assessed the potential effects of the Project on threatened Central California Coast steelhead (*Oncorhynchus mykiss*). The incidental take statement attached to the August 11, 2000, biological opinion provided several terms and conditions implementing reasonable and prudent measures to minimize the incidental take of threatened Central California Coast steelhead. In addition, NMFS provided the Corps with Essential Fish Habitat (EFH) Conservation Recommendations for chinook salmon *(Oncorhynchus tshawytscha)* pursuant to section 305 (b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act that were essentially identical to the terms and conditions for threatened steelhead.

My staff has been working with the Corps and the Santa Clara Valley Water District (SCVWD) as the Project prepares for the 2001 construction season. With assistance from my staff, the Corps and SCVWD have refined the construction-related fisheries mitigation and protection measures. Based on the information presented in your letter of May 11, 2001, and the Guadalupe Creek Restoration Project Construction-Area Dewatering and Fish Handling/Relocation Plan attached to your May 15, 2001 letter to Patrick Rutten, I concur with your finding that the Project includes adequate measures to avoid and minimize adverse effects to steelhead and chinook salmon.

Endangered Species Act

In consideration of project-specific construction techniques and mitigation measures incorporated into the Project, NMFS finds terms and conditions 1B and 1E contained in the incidental take statement attached to the August 11, 2000, biological opinion are no longer necessary to minimize the impact of incidental take associated with the Project. Therefore, the incidental take statement is amended as follows:

Term and condition 1B on page 22 is eliminated.
Term and condition 1E on page 22 is eliminated.

This concludes reinitiation of consultation on the Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in the opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Essential Fish Habitat

In consideration of project-specific construction techniques and mitigation measures incorporated into the Project, NMFS finds EFH Conservation Recommendation 1B is no longer applicable. Therefore, EFH Conservation Recommendations are amended as follows:

Conservation Recommendation 1B on page 33 is eliminated.

If you have questions concerning these comments, please contact Mr. Gary Stern of my staff at 707-575-6060.

Sincerely,

Rodney R McInnis

for Rebecca Lent, Ph.D.
Regional Administrator

cc: Jim Lecky, NMFS
David Chesterman, SCVWD
Carl Wilcox, DFG
Mark Littlefield, FWS

Solbert

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

AUG 11 2000 F/SWR4: MH

Mr. Mark Capik
Acting Chief, Planning Division
U. S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

Dear Mr. Capik:

This document transmits the National Marine Fisheries Service's (NMFS) Biological Opinion on the proposed Guadalupe River Flood Control Project ("Downtown Project") located in the City of San Jose, Santa Clara County, California, and addresses project effects on the threatened Central California Coast evolutionarily significant unit (ESU) of steelhead (*Oncorhynchus mykiss*) and its critical habitat in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This document also transmits NMFS' tentative essential fish habitat (EFH) Conservation Recommendations for chinook salmon (*Oncorhynchus tshawytscha*) as required by section 305 (b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) as amended (16 U.S.C. 1801 et seq.). While EFH designations for chinook salmon have yet to be approved by the Secretary of Commerce, we expect them to be forthcoming and provide these recommendations to facilitate your consultation obligations.

The Biological Opinion and EFH Conservation Recommendations are based on information provided in the Biological Data Report (February 2000) and Draft General Re-evaluation and Environmental Report for Proposed Project Modifications, Volume 1 (June 2000). The Opinion and Recommendations also reflect NMFS' participation in routinely scheduled meetings with project staff and resource agency representatives regarding the development of construction designs and mitigation options (i.e., Guadalupe River Flood Control Project Collaborative) and a review of the ecological literature on steelhead and chinook salmon. A complete administrative record of this consultation is on file in the NMFS Santa Rosa office.

Please note that because of the common habitat requirements for steelhead and chinook salmon, NMFS has chosen to include four of the five Reasonable and Prudent Measures with their respective Terms and Conditions listed in the Incidental Take Statement of the Biological Opinion as its tentative EFH Conservation Recommendations for chinook salmon. Once the EFH designations for chinook salmon are approved, the Corps has a statutory requirement subject to section 305(b)(4)(B) of the MSFCMA and 50 CFR 600.920(j) under the EFH regulations to submit in writing within 30 days to NMFS a detailed description of measures proposed for avoiding, mitigating, or offsetting the impact of the activity on EFH. If the Corps is unable to complete a final response within 30 days of final approval, they should provide NMFS an interim written response within 30 days.

Printed on Recycled Paper

If you have any questions concerning this Biological Opinion or EFH Recommendations, please contact Mr. Mark Helvey at (562) 980-4046.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

Enclosure

Guadalupe River Flood Control Project

BIOLOGICAL OPINION
(Endangered Species Act -Section 7 Consultation)

and

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS
(Magnuson-Stevens Fishery Conservation and Management Act - EFH Consultation)

Endangered Species Act -Section 7 Consultation

BIOLOGICAL OPINION

Agencies: U.S. Army Corps of Engineers.

Activity: Flood Control Project for the Guadalupe River, Downtown San Jose, California

Consultation Conducted By: National Marine Fisheries Service, Southwest Region.

Date Issued: AUG 11 2000.

I. INTRODUCTION

The Downtown Guadalupe River Flood Control Project is proposed to provide flood protection along less than a three mile portion of the Guadalupe River within the City of San Jose, California, between Grant Street and Interstate 880 (Figure 1). The U. S. Army Corps of Engineers, Sacramento District (Corps) is the federal agency and the Santa Clara Valley Water District (SCVWD), City of San Jose, and San Jose Redevelopment Agency are the non-federal sponsors. The project requires a Clean Water Act Section 404 permit.

The project is being implemented in six stages with three of these stages already completed (Figure 2). The first two construction stages, Contracts 1 and 2, were completed in 1994 and 1996, respectively. A third stage, Contract 3C Phase 1, was finished in 1999. The fourth stage, Contract 3C, Phase 2 will begin in 2001. The fifth stage includes the work in Contracts 3A and 3B and also the construction of an underground bypass to convey flood flows between West Santa Clara Street and Coleman Avenue in downtown San Jose. Contracts 3A and 3B will be completed in 2002. The sixth stage includes Contract 3C Phase 3 which will also be completed in 2002. Mitigation for the project has occurred or will occur onsite in the areas of Contracts 1, 2, and 3 and offsite in Reach A and lower Guadalupe Creek.

Because the federally threatened Central California Coast evolutionarily significant unit (ESU) of steelhead (*Oncorhynchus mykiss*) occurs in the project area, the Corps, pursuant to the Endangered Species Act (ESA), 16 U. S. C. § 1531 et. seq., requested formal Section 7 consultation on the fourth, fifth and sixth stages in a letter dated February 8, 2000 to the National Marine Fisheries Service (NMFS). NMFS initiated its Section 7 consultation at that time, as the formal request was accompanied by a completed biological assessment. Project action is defined as construction in Contracts 3A and 3B, Contract 3C, Phase 2, Contract 3C, Phase 3 and the operational effects of the entire Guadalupe River Project (effects of water flow through the flood bypasses and the flow of water through Contracts 1, 2, 3A, 3B, and 3C reaches.

This biological opinion is based on the written descriptions of the flood control project (U.S. Army Corps of Engineers and Jones & Stokes Associates 1999, U. S. Army Corps of Engineers 2000, U. S. Army Corps of Engineers and Santa Clara Valley Water District (SCVWD) 2000), participation in ongoing monthly meetings with project staff and resource agency

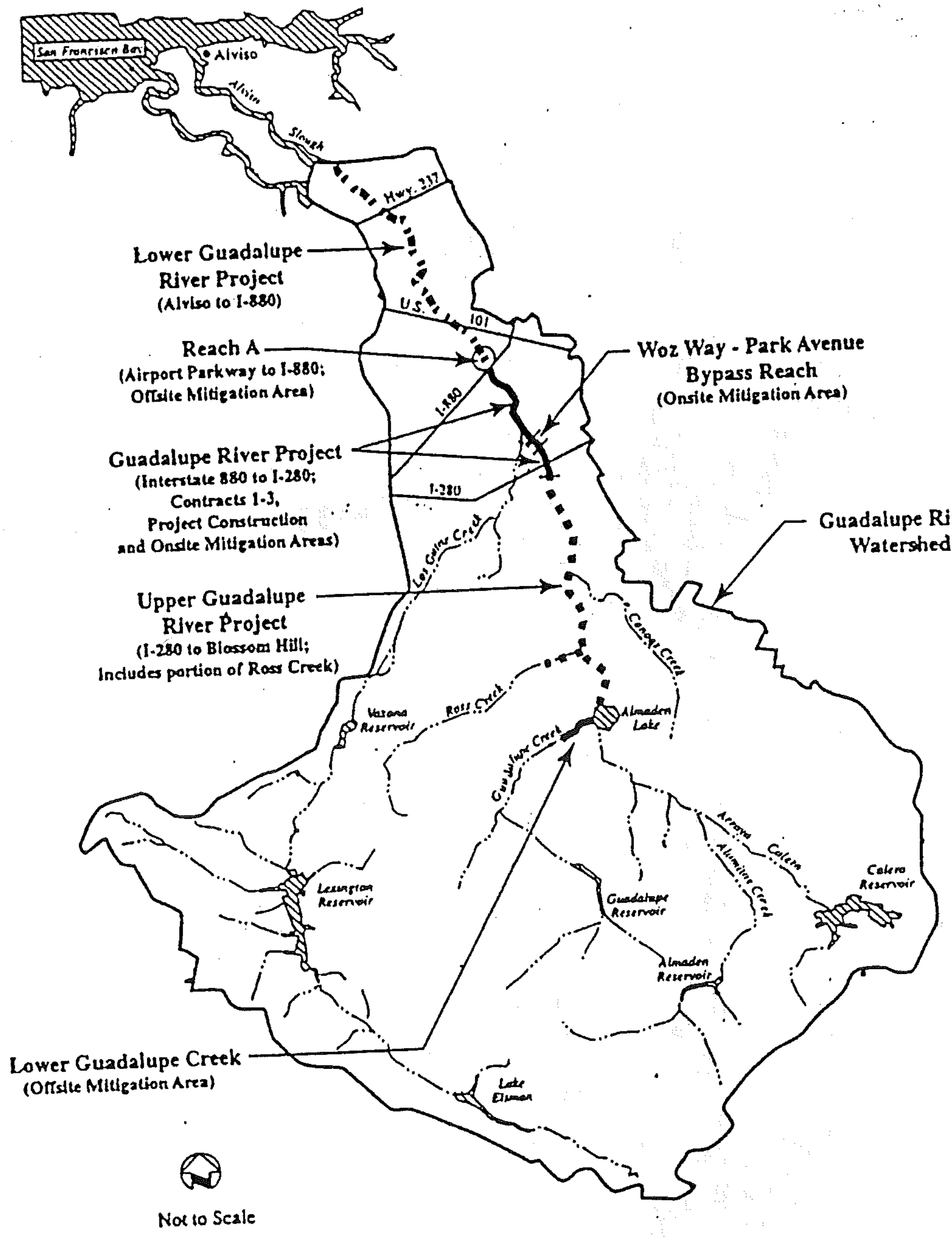
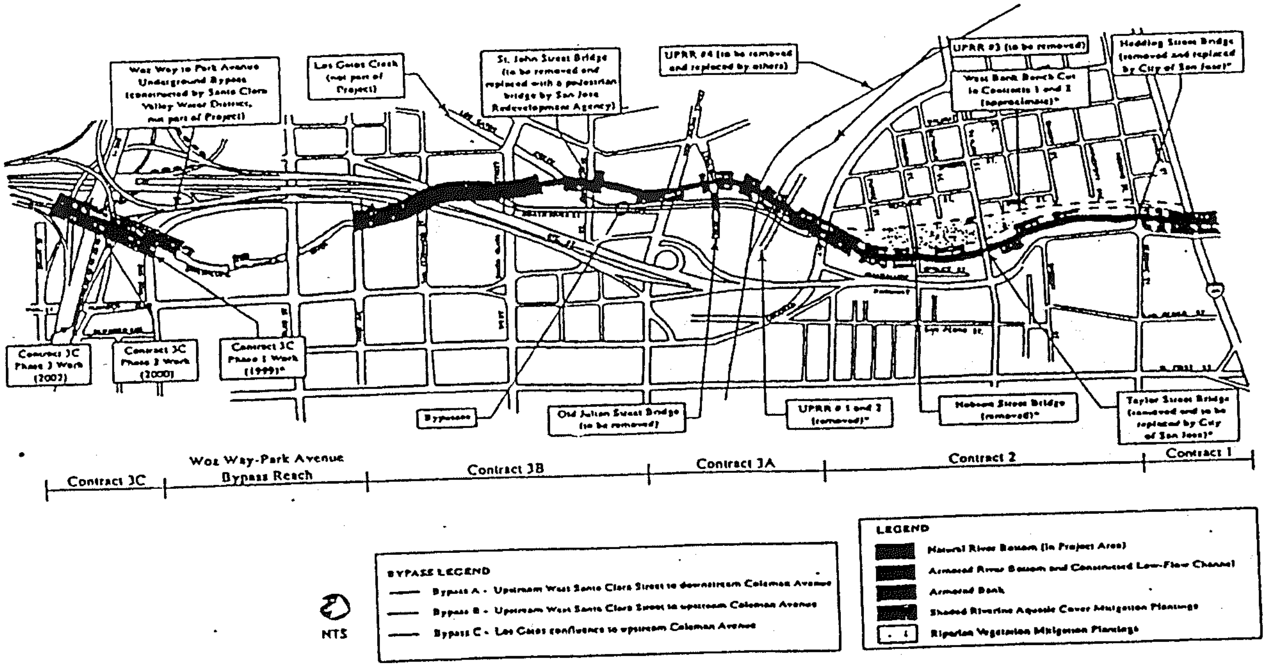

San Francisco Bay
Alviso
Alviso Slough
Hwy. 237
Lower Guadalupe River Project (Alviso to I-880)
U.S. 101
Reach A (Airport Parkway to I-880; Offsite Mitigation Area)
Woz Way - Park Avenue Bypass Reach (Onsite Mitigation Area)
I-880
Guadalupe River Project (Interstate 880 to I-280; Contracts 1-3, Project Construction and Onsite Mitigation Areas)
I-280
Guadalupe River Watershed
Los Gatos Creek
Upper Guadalupe River Project (I-280 to Blossom Hill; Includes portion of Ross Creek)
Canoas Creek
Vasona Reservoir
Ross Creek
Almaden Lake
Guadalupe Creek
Arroyo Calero
Alamitos Creek
Calero Reservoir
Lexington Reservoir
Guadalupe Reservoir
Almaden Reservoir
Lower Guadalupe Creek (Offsite Mitigation Area)
Lake Elsman
Not to Scale

Figure 1. Map of the Guadalupe River watershed. The Guadalupe River Project or "Downtown Project" is indicated by the solid dark line.


Woz Way to Park Avenue Underground Bypass (constructed by Santa Clara Valley Water District, not part of Project)
Los Gatos Creek (not part of Project)
St. John Street Bridge (to be removed and replaced with a pedestrian bridge by San Jose Redevelopment Agency)
UPRR #4 (to be removed and replaced by others)
UPRR #3 (to be removed)
West Bank Bench Cut in Contracts 1 and 2 (approximate)*
Hedding Street Bridge (removed and replaced by City of San Jose)*
Contract 3C Phase 3 Work (2002)
Contract 3C Phase 2 Work (2000)
Contract 3C Phase 1 Work (1999)*
Bypasses
Old Julian Street Bridge (to be removed)
UPRR # 1 and 2 (removed)*
Hobson Street Bridge (removed)*
Taylor Street Bridge (removed and to be replaced by City of San Jose)*
Contract 3C
Woz Way-Park Avenue Bypass Reach
Contract 3B
Contract 3A
Contract 2
Contract 1
NTS
BYPASS LEGEND
Bypass A - Upstream West Santa Clara Street to downstream Coleman Avenue
Bypass B - Upstream West Santa Clara Street to upstream Coleman Avenue
Bypass C - Los Gatos confluence to upstream Coleman Avenue
LEGEND
Natural River Bottom (In Project Area)
Armored River Bottom and Constructed Low-Flow Channel
Armored Bank
Shaded Riverine Aquatic Cover Mitigation Plantings
Riparian Vegetation Mitigation Plantings

*Not part of this ESA consultation, addressed in previous environmental documents.

Base map from Guadalupe River Project Engineering Drawings prepared by A-N West Inc. (1996)

January 3, 2000

Figure 2. Guadalupe River Project with the proposed action. Flood protection and onsite mitigation components are shown.

representatives on the development of construction designs and mitigation options (i.e., Guadalupe River Flood Control Project Collaborative) and a review of the ecological literature on steelhead.

The Administrative Record for this consultation is maintained at the NMFS Santa Rosa office, 777 Sonoma Ave., Room 325, Santa Rosa, California, 95404.

II. PROPOSED ACTION

The Guadalupe River basin is located in Santa Clara County at the south end of San Francisco Bay. The Guadalupe River drains a 160 square mile area in the Santa Cruz Mountains and suburban San Jose, flowing north from the confluence of Alamitos and Guadalupe Creeks through the City of San Jose, California, before emptying into south San Francisco Bay. The river currently cannot contain the 100-year flood event (17,000 cubic feet per second [cfs], per. comm. N. Bicknese, U. S. Army Corps of Engineers, April 2000) resulting in repeated flooding of the San Jose community over the years, most recently in 1995. To control future flooding, channel modifications are proposed along three sections or reaches[1] of the river. The Federal action involves Federal authorization through Section 404 of the Clean Water Act and cost-sharing with the SCVWD, the Corp's partner sponsor for the flood control project. The SCVWD would use the cost-sharing funds to modify a segment of the Guadalupe River between Grant Street and I-880 within San Jose for increasing the capacity of the Guadalupe River to contain the 100-year flood event, and for reimbursement of costs associated with project mitigation sites along Guadalupe Creek and Reach A of the river.

The project action occurs along a 2.6 mile section of the Guadalupe River between Grant Street, just upstream of I-280, and I-880 in downtown San Jose. The project area supports a narrow, discontinuous corridor of riparian forest habitat and shaded riverine aquatic (SRA) cover along the river bank. Moving from upstream to downstream, the project is divided into three reaches identified as Contracts 3C, 3B, 3A, 2 and 1 (Figure 2).

Contract 3C is located at the upstream end of the project between Woz Way and Grant Street and is separated from the downstream Contract 3A and 3B reaches by the Woz Way-Park Avenue Bypass Reach that was completed by the SCVWD in 1988 and has not been operational as neither an inlet nor outlet were constructed. Contract 3C is further subdivided into three subreaches: Phases 1, 2 and 3. However, only Phases 2 and 3 are part of the proposed action. The Corps and SCVWD previously consulted with NMFS on the construction of 3C Phase 1 in 1999.

Contract 3C-Phase 2 subreach includes 1,250 feet (ft) of proposed bank armoring from downstream of Woz Way to Grant Street on the west bank. The armoring includes gabions at the toe of the slope and stone terraces on the bank. On this bank, the inlet section to the existing 2,500 ft Woz Way-Park Avenue bypass will be constructed. (A concrete weir will be constructed at the inlet to control flows entering the bypass and a bulkhead retaining wall will be constructed at the entrance to the bypass to divert water from the bypass until the Project is operational). On the east bank, 1,085 linear feet (lf) of the reach will be armored with gabions at the toe of the slope and stone terraces on the river bank. The river bottom will be armored with concrete cellular mattresses (CCM) and concrete for 1,045 lf. Within the armored river bottom, a low-flow channel will be constructed to provide for fish passage at low flows. The constructed low-flow channel in 3C phase 2 will have a trapezoid/boulder design. Construction of the 3C phase 2 subreach is scheduled to begin in summer 2001 and end in early 2002.

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[1] Reaches are convenient subdivisions of the river corresponding to major bridge crossings.

The Contract 3C Phase 3 subreach includes construction of flood training walls in the uplands adjacent to the reach. These training walls would direct overbank flood flows into the river channel. These walls will be located on both the east and west sides of the river. On the east bank of the river, 860 lf of wall will be constructed and the west bank will have 1,593 lf of floodwalls. Construction of this subreach is scheduled for 2002.

For phases 2 and 3 of the Contract 3C reach, all 1.9 acres of the existing riparian vegetation will be lost, 773 lf of the existing 919 lf of SRA cover will be lost and all 200 ft^2 of the existing spawning gravel habitat will be lost.

Contract 3B reach is the center reach of the project and is located between New Julian Street and Park Avenue. Contract 3B reach construction includes approximately 1,861 lf of west river bank armoring, 2,231 lf of east bank armoring, and 1,940 lf of river bottom armoring. Bank armoring will include gabions at the toe of the slope and stone terraces on the slope and a vertical concrete retaining wall. The river bottom will be armored with CCM and include a low-flow channel to provide fish passage. The low-flow channel will include approximately 5-7 concrete check structures to pool water, as well as logs, boulders, and gravel placed on top of the CCM to concentrate flows in the low-flow channel. An existing gaging weir currently blocking fish passage will be removed and replaced with an invert stabilization structure. The St. John Street bridge may be demolished to maintain the necessary hydraulic capacity but would be replaced with a pedestrian/maintenance bridge. Contract 3B will include the construction of the outlet section of the Woz Way - Park Ave. bypass at the upstream portion of this reach. Inlets to the proposed bypass system (Santa Clara Street-Coleman Avenue bypass) will be constructed in the downstream portion of this reach.

Construction of Contract 3B will result in the loss of 3.4 acres of the existing 6 acres of riparian vegetation, the loss of 2,430 lf of the existing 3,838 lf of SRA cover and all 9,700 ft^2 of spawning gravel habitat. Construction of Contract 3B is scheduled for 2001 - 2002, concurrent with the construction of Contract 3A.

Contract 3A, the furthest downstream reach, is located between Coleman Avenue and New Julian Street. Approximately 695 lf of the west river bank will be armored, 745 lf of the east river bank will be armored, and 695 lf of river bottom armoring will be installed at the downstream end of the reach. Gabions will armor the toe of the slope, stone terrace will armor the river bank and CCM will armor the river bottom. A low-flow channel will be created in the CCM using approximately 5-7 concrete sills, logs, boulders and gravel placed at grade and on top of the CCM-armored river bottom to concentrate flows in the low-flow channel. The Old Julian Street bridge will be removed and two railroad bridges will be replaced by a single railroad bridge. An exposed gas and sewer line that may act as a barrier to fish at low flows will be relocated under the river. Outlets for the Santa Clara Street-Coleman Avenue bypass system will be constructed in the downstream section of this reach near Coleman Avenue.

Construction of Contract 3A will result in the loss of 2.3 acres of the existing 4.5 acres of riparian vegetation, the loss of 1,430 lf of the existing 3,062 lf of SRA cover and all 10,600 ft^2 of spawning gravel habitat in Contract 3A. Construction of this reach is scheduled at the same time as Contract 3B in 2001 - 2002 concurrent with the construction of 3B.

To fully compensate for all habitat impacts resulting from project construction, a Mitigation and Monitoring Plan or MMP (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000) has been prepared by the project sponsors to address these impacts. The components of the plan have been endorsed and ratified by all members of the Guadalupe River Flood Control Project Collaborative, including the U. S. Fish and Wildlife Service, NMFS and California Department of Fish and Game (Guadalupe Collaborative 1999). The Collaborative members have committed to implementation of the MMP to restore and compensate for adverse environmental effect of the project (Guadalupe Collaborative 1999). The MMP provides a framework to verify that mitigation will be adequate and successful for ensuring that the project causes no harm to environmental resources, that mitigation fulfills requirements spelled out in project permits and authorizing documents, that mitigation complies with governing laws and that adaptive management methods (based on measures that track key ecological functions and habitat values) are supervised by an Adaptive Management Team (comprised of Collaborative members) and implemented as needed to ensure that established ecological functions and habitat values are met. The MMP identifies and describes project actions that will ensure the protection or restoration of existing habitat structure and function present in the project area. Five key habitat structure and function elements have been identified: riparian vegetation, shaded riverine aquatic cover vegetation (SRA cover) and their effect on water temperatures, steelhead spawning habitat, steelhead fish passage, and steelhead rearing habitat.

To address projected impacts to 7.6 acres of riparian vegetation and 4,634 lf of SRA cover, the MMP describes the completion of 21 acres of riparian vegetation plantings native to the Guadalupe River in Contracts 1 and 2 (just downstream of the Contract 3 reach) between 1994 and 1999. These plantings were undertaken to compensate for 6.4 acres of riparian habitat impacted in other segments of the river between 1992 and1994 and in anticipation of the projected impacts for this project. To compensate for SRA cover impacts, SRA cover mitigation plantings will occur both onsite and offsite. Onsite SRA cover mitigation includes the planting of 3,000 lf both within the project area (1,344 lf in the Contract 3C and 3A reaches and the remaining amount in Contract 1 and 2 reaches immediately downstream of the Contract 3A reach). Plant material will be placed in areas disturbed during construction as well as in areas currently void of SRA cover vegetation to fill the existing gaps in the riparian canopy.

Offsite SRA cover mitigation includes planting 7,848 lf of SRA cover vegetation in Reach A (Figure 1) and 12,044 lf in lower Guadalupe Creek (Figure 1), a tributary to the Guadalupe River located approximately 6 miles upstream of the project area. Onsite SRA cover mitigation plantings in Contracts 1, 2, and the Woz Way Park reach as well as offsite SRA mitigation plantings are expected to be completed by 2001. Onsite SRA plantings in Contracts 3A and 3B are expected to be completed by 2002. SRA plantings will start providing shade before year 5 of planting and reach maturity and maximum shade density after year 40. Shade provided by the SRA cover plantings is anticipated to cool Guadalupe River water temperatures. Should water temperature measurements indicate harmful temperatures to steelhead onsite, the adaptive management strategy of the MMP allows for implementing pro-active procedures including the placement of boxed trees along the constructed low-flow channel in Contracts 2, 3A, and 3B from approximately June through October until mitigation plantings begin providing enough shade to lower water temperatures below harmful levels to steelhead. Shade cloth may be used in place of boxed trees if it is found that the use of boxed trees is not feasible. Planting faster growing trees in SRA mitigation sites and removing these once mitigation planted trees begin providing shade may also be performed (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000).

The project may affect up to an estimated existing 20,500 ft^2 of potential spawning gravels, (i.e., 200 ft^2, 9,700 ft^2 and 10,600 ft^2 in reaches Contract 3C Phase 2, 3B and 3A, respectively). If project activities do result in the loss of spawning gravels, river-run gravels will be placed in both the natural and armored channel invert sections of Contract 3A and 3B reaches after construction as well as in the Contract 1 and 2 reaches. Sufficient gravel deposits will be made to insure a minimum 1 foot thickness at appropriate spawning habitat locations whenever gravel coverage drops below 80 percent of the pre-project levels based on preconstruction surveys. Restocking will take place between June 15 and August 31. Gradient-control structures (or invert stabilization structures) will also be placed in the natural bottom sections of the river in Contracts 3A and 3B to promote gravel deposition.

A low-flow channel will be included in the armored sections of the river bottom to provide fish passage through the project area. In each of the armored river-bottom sections of Contract 3A and 3B reaches, a low-flow channel will be created using approximately 5-7 concrete sills (or check structures) as well as logs, boulders, and gravel placed at grade on top of the CCM-armored bottom to concentrate flows in the low-flow channel. The design will maintain minimum average low-flow water depth required for migrating adult steelhead. The low-flow channel check structures will also provide pools of water 1.2 feet deep at extremely low flows (1 cfs) and thereby maintain cooler downstream water temperatures.

In the Contract 3C reach, a trapezoid/boulder low-flow channel will be constructed into the armoring that protects approximately 1,045 lf of river bottom. The design includes the placement of clusters of boulders in the trapezoidal shaped, low-flow channel to increase waters depth, provide low-flow passage for steelhead and provide fish habitat.

Invert stabilization structures proposed for the natural river bottom sections of the Contract 3A and 3B reaches are expected to promote the development of plunge pools and gravel bar sequences in these reaches of the river. Geomorphic instream features installed as part of the SRA mitigation plantings will improve bank stability, increase instream cover and improve the suitability of spawning and rearing habitat for steelhead. Geomorphic features may include rock weirs and vanes, boulders, root wads, and deflector logs.

The Corps will implement preventative measures to avoid and minimize potential adverse effects on riparian vegetation (including SRA cover) and other fish resources that could occur during project construction. These preventative measures include: 1) implementing a Vegetation Protection Plan using best management practices for protecting and replacing vegetation damaged during construction; 2) implementing a Storm Water Pollution Prevention Plan (SWPP) that complies with the statewide General Permit administered by the California State Water Resources Control Board for the National Pollutant Discharge Elimination System; 3) implementing an Erosion and Sediment Control Plan for minimizing the potential for sediment input into the stream; 4) implementing a Toxic Material Control and Spill Response Plan for preventing toxic material spills; 5) implementing a Soil Management Plan that provides criteria for classifying wastes in soil and managing soils possibly contaminated with mercury and methyl mercury concentrations; 6) implementing a Hazardous and Toxic Materials Contingency

Plan that outlines a course of action in the event that unlisted hazardous and toxic sites are uncovered during construction; and, 7) implementing construction area-fish management constraints pertaining to diversion of flows and the removal of fish from impacted areas; and 6) limiting in-river construction to the May 1 - October 15 timeframe assuming that stream-monitoring criteria have been met for water temperatures and absence of out-migrating steelhead. In the event that stranded juvenile steelhead are found in pools remaining in the affected river segment after the flow is diverted, fish will be captured by a qualified fisheries biologist using a backpack electroshocker and relocated.

III. LISTED SPECIES AND ENVIRONMENTAL BASELINE

Central California Coast steelhead are likely to be adversely affected by the project action due to riparian and instream habitat impacts, including temporary loss of spawning and rearing habitat, potential changes in water temperature, sedimentation and turbidity effects, bypass channel entrapment and migration diversion, and interruptions to functioning instream habitat. These impacts would occur along a 2.6 mile section of the Guadalupe River between Grant Street (just upstream of I-280) and I-880 in downtown San Jose, California. Sedimentation and turbidity effects mays also occur immediately downstream of the project construction area. On August 18, 1997, NMFS published a final rule listing the Central California Coast Steelhead ESU as threatened under the ESA (62 FR 43937). Consequently, the status of the species, its life history and habitat requirements, and recent factors affecting its population (i.e., environmental baseline) are described below. Critical habitat for this ESU was designated on February 16, 2000 (65 FR 7764).

STATUS

The abundance of steelhead in the Central California Coast ESU was summarized by Busby et al. (1996). The authors commented that steelhead populations within the major streams occupied by this ESU appear to be greatly reduced from historical levels. Steelhead in most tributaries to San Francisco and San Pablo Bays have been virtually extirpated (McEwan and Jackson 1996). In a 1994 to 1997 survey of 30 San Francisco Bay watersheds, steelhead occurred in small numbers at 41 percent of the sites, including the Guadalupe River, San Lorenzo Creek, Corte Madera Creek, and Walnut Creek (Leidy 1997).

Little information is available regarding the contribution of hatchery fish to natural spawning, and little information on present run sizes or trends for this ESU exists. However, given the substantial rates of declines for stocks where data do exist, the majority of natural production in this ESU is likely not self-sustaining.

Critical Habitat: Central California Coast steelhead critical habitat is designated to include all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays. Excluded is the Sacramento-San Joaquin River Basin of the California Central Valley as well as areas above specific dams including Almaden Reservoir, Calero Reservoir, Guadalupe Reservoir and Vasona Reservoir.

LIFE HISTORY AND HABITAT REQUIREMENTS

The timing of upstream migration is correlated with higher flow events, such as freshets or sand bar breaches, and associated lower water temperatures. Unusual stream temperatures during spawning migration periods can alter or delay migration timing, and increase fish susceptibility to diseases. The minimum stream depth necessary for successful upstream migration is 7.2 inches (Thompson 1972). Reiser and Bjornn (1979) indicated that steelhead preferred a depth of 9.5 inches or more.

Steelhead spawn in cool, clear streams featuring suitable gravel size, depth, and current velocity. Intermittent streams may be used for spawning (Barnhart 1986; Everest 1973). Fry typically emerge from the gravel two to three weeks after hatching (Barnhart 1986). After emergence, steelhead fry usually inhabit shallow water along perennial stream banks. Older fry establish territories which they defend. Streamside vegetation and cover are essential for their survival and removal of this vegetation and cover can be considered an adverse impact.

Steelhead juveniles are usually associated with the bottom of the stream. In smaller California streams, the water levels may drop so low during the summer that pools are the only viable rearing habitat. No passage between pools can occur until river levels rise with the onset of the rainy season. Therefore, juvenile steelhead rearing in isolated summer pools are extremely vulnerable to disturbance or water quality impacts. Daytime temperatures in summer rearing pools may also be near lethal levels; riparian shading and the presence of sub-surface, cold water seeps are often essential to maintain pool temperatures at tolerable levels. In winter, steelhead juveniles become inactive and hide in any available cover, including gravel or submerged woody debris.

The majority of steelhead in their first year of life occupy riffles when there is adequate water, although some larger fish inhabit pools or deeper runs. Juvenile steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. Water temperatures influence the growth rate, population density, swimming ability, ability to capture and metabolize food, and ability to withstand disease of these rearing juveniles. Rearing steelhead juveniles prefer water temperatures of 45° to 58° F and have an upper lethal limit of 77° F (Raleigh et al. 1984).

Suspended and deposited fine sediments can directly affect rearing salmonids by abrading and clogging gills, and indirectly cause reduced feeding, avoidance reactions, destruction of food supplies, reduced egg and larval survival, and changed rearing habitat (Reiser and Bjornn 1979).

Juvenile steelhead live in freshwater between one and four years (usually one to two years in the Pacific Southwest) and then become smolts and migrate to the sea from November through May with peaks in March, April, and May. Fish size appears to be positively correlated with water velocity and depth with larger fish occurring in faster and deeper areas of the channel (Chapman and Bjornn 1969, Everest and Chapman 1972).

Further information is available in the NMFS Status Review of west coast steelhead from Washington, Idaho Oregon, and California (Busby et al. 1996), the NMFS Status Review for Klamath Mountains Province Steelhead (Busby et al. 1994), and the NMFS final rule listing the

Southern California Coast steelhead ESU, South Central California Coast steelhead ESU, and the Central California Coast steelhead ESU (NMFS 1997).

ENVIRONMENTAL BASELINE

The action area for this project will occur along a 2.6 mile section of the Guadalupe River between Grant Street (just upstream of I-280) and I-880 in downtown San Jose, California. Sedimentation and turbidity effects may also occur immediately downstream of the action area.

Documentation of steelhead in the Guadalupe River is limited although steelhead abundance is believed to be substantially less than that of historical conditions primarily because of the construction of barriers to fish passage (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000). From a historical perspective, Skinner (1962) noted that the Guadalupe River system probably supported small runs of steelhead and accounts of their occurrence in the river have been documented (Leidy 1984). Adults would have entered the river from south San Francisco Bay in early winter and migrated upstream into cooler tributaries (e.g., Guadalupe Creek) to spawn. After the completion of upstream reservoirs in the 1930s and 1950s, steelhead migration was restricted to tributary streams downstream of the reservoir dams (Montgomery Watson et al. 2000). Prior to the construction of a fish ladder in fall,1999, at the Alamitos drop structure[2], located at the confluence of Guadalupe and Alamitos Creeks (the downstream end of Almaden Lake), steelhead entering the Guadalupe River system had been prevented from migrating to historic upstream spawning and rearing areas (U. S. Army Corps of Engineers 2000). Despite these threats and impacts in this urban setting, steelhead have been able to persist in low numbers and have been recorded in the Guadalupe River at least since 1986 (Ulmer 1988 as reported in U.S. Fish and Wildlife Service 1998).

Observations of adult steelhead in the Guadalupe River suggests that they enter the river to spawn. Whether the adults actually use the river for spawning purposes cannot be confirmed because water clarity is poor during the steelhead spawning season in Santa Clara Valley watersheds and sightings of actual steelhead redds have not been made (pers. comm., T. Neudorf, SCVWD, 25 May 2000). However, steelhead smolts have been captured in outmigrant trapping operations conducted between 1997 and 1999 (pers. comm., T. Neudorf, SCVWD, 25 May 2000). The presence of juvenile steelhead (or rainbow trout) indicates the project area is used for rearing purposes.

Adverse impacts to steelhead in the Guadalupe River system are consistent with the primary reasons for the decline in steelhead abundance throughout California. These declines have resulted from the destruction and modification of habitat, overfishing, and natural and human-made factors (National Marine Fisheries Service 1996, 1997). Specifically for the Guadalupe River, logging, followed by the construction of numerous barriers, impoundments, diversions, pollution from the fruit canning industry and other urban runoff, gravel mining, and the introduction of non-native fish species (e.g., largemouth bass, sunfishes, carp) have greatly reduced the habitat quality of the Guadalupe River (U.S. Fish and Wildlife Service 1998). Based on NMFS' observations, factors adversely affecting steelhead occurring in the project area of the Guadalupe River appear to be consistently related to the alteration or modification of instream habitat, barriers to fish passage, urbanization, and questionable water quality. Modification of instream habitat can reduce the availability of spawning and rearing habitat and also increase water temperatures when SRA cover habitat is reduced. Fish passage barriers reduce available habitat for spawning and rearing purposes in upper reaches of the Guadalupe River and its tributaries. Poor water quality (e.g., water temperature) can affect steelhead survival and that of their prey.

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[2] This structure was an impassable barrier to steelhead migration until October 1999 when construction of a fish ladder was completed. The operation of this ladder at the downstream end of Almaden Lake now provides fish access to another 2.9 miles of upstream habitat along Guadalupe Creek (J. Ferguson, SCVWD, pers. comm.).

Immediately upstream and downstream of the project area are 6.4 miles of channel proposed to be modified in another flood control project (Upper Guadalupe Flood Control Project) previously reviewed by NMFS under Section 7 of the ESA. Modifications include main channel excavation including the creation of wider channels and bench cuts, bank stabilization, bridge construction, floodwall and levee construction, and revegetation. These modifications are proposed to take place over a 25 year time frame and may affect steelhead downstream by sedimentation and turbidity release although these releases are expected to be minimal due to the summertime, low-flow condition, construction window.

Concerns regarding mercury contamination in Guadalupe Creek, a tributary to the Guadalupe River, have recently surfaced. A "preassessment screen determination" prepared by the U. S. Fish and Wildlife Services pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and issued on February 17, 2000, suggests that mercury from defunct mercury mining operations in the Guadalupe Creek and Alamitos Creek watersheds may be capable of causing injuries to sediments, fish and wildlife resources. While a final decision on whether to proceed with a comprehensive natural resource damage assessment has yet to be made, the Corps and SCVWD staff involved in the flood control project have developed an amiable dialogue with state and Federal agency representatives involved in the mercury issue and have expressed their intent to fully cooperate with these agencies in addressing the contamination issue.

IV. EFFECTS OF THE PROJECT ACTION

General: Effects of the proposed project on steelhead are those associated with site preparation, excavation of the channel bed and bank, streamflow diversion, workspace dewatering and installation of bed and bank armoring. Effects will involve some temporary loss of riparian and instream habitat. Take is possible in the form of capture, trap, harm, harassment, injury, and mortality of adult and juvenile steelhead during and as a result of construction activities.

The following is a discussion of specific effects of the proposed project on steelhead. These effects are categorized into seven categories: alteration of riparian habitat, alteration of instream habitat structure, interruption of functioning instream habitat, sedimentation, turbidity, by-pass channel entrapment and fish passage improvements:

ALTERATION OF RIPARIAN HABITAT

The riparian zone acts as the interface between terrestrial and aquatic ecosystems by moderating the effects of upslope processes and provides important ecological functions (Spence et al. 1996, Flosi et al. 1998). Riparian vegetation, including shaded riverine aquatic (SRA) cover, provides juvenile steelhead cover from predators, increases habitat complexity, provides a source of insect prey for juvenile salmonids and provides shade for maintaining water temperatures within suitable ranges for all life stages. The functional values of riparian corridors and the benefits they provide to stream fish populations are well documented (Karr and Schlosser 1978, Wesche et al. 1987, Gregory et al. 1991, Caselle et al. 1994, Wang et al. 1997). For this project, construction activities associated with grading and excavation of the riverbank and bank protection activities would affect 7.6 acres of the existing 12.4 acres of riparian vegetation (61 percent of the total in Contract 3A, 3B and 3C reaches) and 4,634 lf of the existing 7,820 lf of SRA cover (58 percent of the total in Contract 3A, 3B and 3C reaches). NMFS considers this impact significant because the existing amount of stream shading for the three reaches occurs in a highly urbanized area of downtown San Jose where the swath of the riparian vegetation corridor and SRA cover is sporadic and sparse with some areas supporting little if any riparian vegetation. Any removal of existing riparian vegetation can only exacerbate the existing marginal habitat condition of the downtown Guadalupe River for steelhead.

Water temperatures will be affected in the short-term by the removal of riparian vegetation and SRA cover. This impact will persist until intended mitigation activities associated with plantings of riparian vegetation and SRA cover begin to provide functional habitat (e.g., canopy cover). The Corps and SCVWD would prepare and implement a compensatory Monitoring and Mitigation Plan (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000) to replace and reestablish riparian vegetation and SRA cover removed during construction, and would replace as much of the affected SRA cover as possible onsite with the remainder of the affected SRA cover replaced offsite in Reach A and lower Guadalupe Creek.

Reach A was selected as an offsite mitigation area because of its close proximity to the project construction area. Guadalupe Creek was selected because it provides the opportunity to expand the range for steelhead rearing and spawning habitat in the upper tributaries of the Guadalupe River watershed. Both offsite mitigation sites currently provide very limited SRA cover and these additions would provide an improvement to aquatic habitat quality on these reaches.

Once mitigation plantings begin providing shade, increases in average maximum water temperatures associated with the project are expected to be not more than 3.5^0 F for the Contract 3 reach and 2.5^0 F for the downstream Contract 1 and 2 reaches (U.S. Army Corps of Engineers 2000). Simulated post-mitigation temperatures in the offsite mitigation Reach A and lower Guadalupe Creek areas are projected to be as much as 2.2^0 F ^{0} and 7.6 F lower, respectively, than pre-project temperatures. NMFS believes the short-term temperature increases in Contracts 1,2, and 3 may preclude steelhead from fully utilizing cover and rearing opportunities within the project areas. The applicant propose to take remedial actions as proposed in its MMP for short-term thermal impacts by including an adaptive management strategy that would consider placing large boxed trees along the low-flow channel in Contracts 2, 3A, and 3B from June through October until mitigation plantings have matured. The applicant will also consider planting faster growing tees in SRA mitigation sites and possibly installing shade cloth over the constructed low-flow channel in Contract 3A and 3B reaches (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000). However, NMFS believes the temporary loss of riparian habitat and the uncertainty of mitigation planting success could result in harm or mortality to rearing juvenile steelhead by removing cover from predators, reducing nutrient sources and increasing water temperatures. In the absence of the applicant taking any remedial actions, steelhead may be precluded from use of the project area and possibly prevent or delay their access to spawning reaches.

ALTERATION OF INSTREAM HABITAT STRUCTURE

Instream habitat structure includes channel substrate and channel form. Substrate, the composition of channel bottom, is an important component of steelhead spawning and rearing habitat requirements. In general, adult steelhead require relatively clean gravels in which to lay their eggs. Steelhead prefer gravel sizes in the 0.5 to 6 inch range dominated by 2 to 3-inch gravel (Flosi et al. 1998). Gravels are also important for maintenance of healthy invertebrate prey populations. Low gravel abundance and/or quality can limit productivity and abundance of steelhead in the project area. Channel form includes riffles, runs and pools and these habitat types are preferred by young-of-year juveniles (Flosi et al. 1998). Riffles provide important fish spawning habitat and food-producing areas and pools, because of their depth, provide cover and sources of cooler water temperatures during the warm months. Water depths are also important for fish passage. The minimum stream depth necessary for successful upstream migration is 7.2 inches (Thompson 1972). Reiser and Bjornn (1979) indicated that steelhead preferred a depth of 9 inches or more.

The project action relative to channel widening and armoring of the channel invert (bottom) will result in the direct and permanent loss of channel gravels by either direct removal or overlaying with concrete or concrete cellular mattresses (CCM). Other existing habitat features including pools, riffles and runs will be lost to construction activities. The loss of spawning gravels will be mitigated by the continual placement of river-run gravels by the Corps and SCVWD at appropriate spawning habitat locations in both the natural and armored channel invert (bottom) sections after construction (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000). In addition, the placement of invert stabilization structures (grade control structures) in sections of the unarmored, natural river channel of Contracts 3A and 3B are intended to reduce erosion of the river bottom, increase instream cover, provide improved spawning and rearing habitat by the creation of pools and riffles, and facilitate gravel deposition. In the armored river-bottom sections of Contract 3A and 3B, the construction of a low-flow channel using concrete sills, with logs, boulders and gravel placed at grade on top of the CCM-armored river bottom will concentrate flows in a low-flow channel. The low-flow channel is intended to allow fish passage through the reach by increasing water depth and maintaining a minimum depth of 7.2 inches at flows as low as 4 cfs. The low-flow channel check structures are also intended to maintain a minimum average water depth of 1.2 ft when the flow is zero to 1 cfs. The low-flow channel in the armored bottom of Contract 3C will have a trapezoid/boulder design. This design will also increase water depth during low-flows to provide fish passage. The range of depth for the trapezoid/boulder low-flow channel is 0.8 to 1.1 ft during flows as low as 4 cfs. These low-flow channels are expected to maintain cooler water temperatures than would occur if the flows were diffused over the river bottom. Fish passage is assured through implementation of a mitigation and monitoring plan that utilizes an adaptive management strategy (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000). The adaptive management process provides a mechanism by which remedial actions can be implemented if measurable objectives of ecological functions and habitat values affected by the project are not achieved.

Although proposed mitigation and monitoring actions (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000) for evaluating and restocking gravel levels as needed and the installation of a constructed low-flow channel would mitigate for changes in channel form (e.g., loss of pools), NMFS believes that the outcome of these methods cannot be accurately predicted. Further, even if mitigation actions are adaptively managed for, steelhead may still incur short-term impacts until remedial actions take effect. Consequently, NMFS expects this project to harm steelhead due to habitat modification or degradation to spawning and feeding areas that would preclude, interrupt or delay spawning; reduce spawning success, reduce prey availability, preclude or reduce migratory passage, and, degrade or reduce available rearing areas during and immediately after the construction period.

INTERRUPTION OF FUNCTIONING INSTREAM HABITAT

Instream habitat will be temporarily lost when the streamflow is diverted (e.g., coffer dams or culverts) and the workspace is dewatered as a result of project construction. In channel construction such as channel widening, construction of reinforced banks, bridge replacement, and other activities requiring stream dewatering, heavy equipment operation in the channel or stream crossing could harm or kill rearing steelhead because riffle, run, and pool habitats used by these early life history phases could be impacted. Diverting streamflow could harm individual anadromous fish by concentrating or stranding them in residual wetted areas (Cushman 1985) or by causing them to migrate to adjacent habitats that do not meet their needs for survival (Clothier 1953, Clothier 1954, Kraft 1972, Campbell and Scott 1984). Dewatering the workspace may cause harm, injury, or death to steelhead by confining them to areas that are predisposed to dewatering (or may be intentionally dewatered), increased water temperature, decreased dissolved oxygen concentration, and predation (Cushman 1985). Impacts associated with channel construction activities will be confined to the April 15 to October 15 timeframe each year. Construction requiring streamflow diversion and dewatering, stream crossings, or work in the channel invert will not commence until May 1 provided that average daily water temperatures exceed 68 ° F for a minimum of 5 consecutive days. Should the stream-monitoring criteria not be met, river bottom work and stream dewatering would not be allowed to commence until June 1. Because NMFS believes that adult steelhead will have migrated from the area due to natural increases in water temperature, only juvenile steelhead rearing in the project areas may be harmed, injured or killed as a result of instream construction activities.

The applicant has proposed to remove any remaining steelhead by means of backpack electroshockers used by qualified fisheries biologist (in coordination with NMFS) and relocated to suitable areas immediately upstream or downstream of the work space . The number of steelhead that may become stranded is difficult to estimate because of the uncertainty of steelhead abundance in this river and the project area. If strandings do occur, relocation is expected to benefit these fish by relocating them from areas where they would be extremely susceptible to death or serious injury. However, some minimal mortality associated with capture and relocation may occur.

BYPASS CHANNEL ENTRAPMENT AND MIGRATION DIVERSION

The proposed project includes the construction of a underground bypass system and the completion of the Woz Way-Park Avenue bypass. The underground bypass system would consist of three box culverts located on the eastern bank of the Guadalupe River. The three box culverts would be 5,000 ft, 4, 000 ft, and 2,500 ft long. Both the Woz-Park bypass and the proposed bypass system will become operational at the completion of the project. The flow thresholds for both bypasses is 1,500 cubic feet per second (cfs). Use of the bypass channels avoids and minimizes adverse effects on riparian vegetation, including SRA cover that would have been removed if the natural river channel had been widened in order to accommodate flood flows in these portions of the river. The potential exists for adult and juvenile steelhead to be swept downstream into either bypass channels during flood events and possibly become stranded during receding flows. The likelihood of fish entrapment during receding flows increases should pool habitats form within the channel bottoms of the respective bypass channels. The design of both bypass channels will exclude features (e.g., gradient control structures) that could result in the formation of ponded-water habitats with the potential to entrap fish during receding flows. It is also believed that the bypass channels would operate infrequently and for short durations. An analysis of daily peak flow determined that during the 6-month rainy season from 1972 through 1991, Guadalupe River flows equaled or exceeded 1,500 cfs on 42 days or approximately 1.5 percent of the total days during the rainy season (U. S. Army Corps of Engineers 2000). Based on a proposed design that avoids features (e.g., gradient-control structures) for trapping steelhead in the bypass culvert, the rarity of 1500 cfs flows, and because the downstream end of the bypass culverts would reconnect with the Guadalupe River, NMFS believes that juvenile and adult steelhead entering the bypass culverts on downstream flows would be carried unimpeded through the bypass channels and immediately reenter the river.

The potential also exists for upstream migrating adults to stray from the river and enter the bypass channels during flood events when the bypass systems are operating. A central issue is whether migrating adults will be attracted to bypass flows and veer from the natural channel during flood events as it has been long assumed that fish are attracted to areas of highest momentum, that is, highest flow and highest velocity, when migrating upstream (Powers and Orsborn 1985, Bell 1991). Based on estimates of velocities at both bypass outlets and the natural channel of the Guadalupe River, flow velocities in both bypass channels would exceed natural channel velocities beginning with the 20 year flood event (Tables 1 and 2). At 20 year flood flows of 9300 cfs and 7590 cfs in the Santa Clara Street-Coleman Avenue bypass and the Woz Way-Park Avenue bypass, respectively, bypass water velocities of 8.3 feet per second (fps) and 7.4 fps, would exceed the adjacent natural channel velocities of 7.9 fps and 5.3 fps, respectively. Flows in both bypass channels are expected to be greater than flows in the natural channel approximately 50 to 55 percent of the time that flood water diverts to the bypasses (pers. comm., N. Bicknese, USACOE, Sacramento District). However, according to Thompson (1972), the maximum water velocity that enables upstream migration of adult steelhead is 8.0 fps. Consequently, once flows in the bypass become more attractive to upstream migrants in the sense that the flows are swifter in the bypass channel, these bypass flow velocities begin to exceed the maximum water velocity threshold calculated for steelhead. Another consideration is whether upstream migration would actually be occurring during these excessive flood events. Bates (1992) suggests that upstream migrants do not move during highest river flows and based on the criteria of Thompson (1972), these upstream migrations would probably cease at 20 year flood events or greater.

The presence of the darkened environment of the enclosed bypass channels may also create an obstacle to fish passage. Gauley (1967) found that steelhead selected lighted entrances over dark entrances when encountering fishway entrances. Whether adult steelhead would enter the bypass at night is unlikely as most adult steelhead appear to migrate during daylight hours (Bates 1992). Even though some upstream migrants may not be completely averted from entering the bypass and therefore become delayed in their migration, NMFS believes that the potential for this to occur will be low and should not result in the harm or harassment or stranding of adult steelhead as several natural factors regulating the migrating behavior of adult steelhead will be operating during flood events.

Table 1. Estimate of water velocities at the Santa Clara Street-Coleman Avenue box culvert outlets and the natural channel of the Guadalupe River (pers. comm. N. Bicknese, Corps, Sacramento, CA, April 20, 2000).

Flood Frequency	Total Flow	Natural Channel	Box Culvert
Years	cubic feet per sec. (cfs)	feet/sec. (fps)	feet/ sec. (fps)
2	2350	4.27	0.31
5	4500	5.64	3.37
10	6700	6.79	5.98
20	9300	7.92	8.30
50	13,500	9.32	11.30
100	17,000	10.36	13.51

Table 2. Estimate of water velocities at Woz Way-Park Avenue box culvert outlets and the natural channel of the Guadalupe River (pers. comm. N. Bicknese, Corps, Sacramento, CA, May 1, 2000).

Flood Frequency	Total Flow	Natural Channel	Box Culvert
Years	cubic feet per sec. (cfs)	feet/sec. (fps)	feet/ sec. (fps)
2	1752	4.80	0.80
5	3500	4.90	2.90
10	5370	5.10	5.10
20	7590	5.30	7.40
50	11,330	5.60	9.60
100	14,600	5.90	10.70

SEDIMENTATION

Increased sedimentation (rapid settling of suspended sediment) would result mostly from erosion contributed into the Guadalupe River resulting from or resuspended during construction activities including excavation and backfilling, bridge removal and replacement, construction of bypass culverts and floodwalls, installation of streamflow diversion devices, installation of cofferdams, installation of pipes, culverts and gabions, roadway removal and repaving and vegetation removal and replanting in the Guadalupe River and Guadalupe Creek. The specific sedimentation rate would depend on the duration, volume, and frequency that sediment is contributed to the river. Among other impacts, substantial sedimentation rates could bury less mobile organisms (Cordone and Kelley 1961) that serve as fish forage, and degrade instream habitat conditions (Cordone and Kelley 1961, Eaglin and Hubert 1993). Although specific sedimentation rates have not been estimated, they are expected to be low to moderate and temporarily occur during the summer construction window. These impacts will occur repeatedly during each construction season. Based on the implementation of proper control measures proposed by the applicant including a vegetation protection plan, stormwater pollution prevention plan, erosion and sediment control plan, and limiting in-channel construction to the summer, low-precipitation period, sedimentation in the project area will likely only be a temporary and minor impact on the steelhead that may be present.

TURBIDITY

Elevated levels of turbidity (suspended particulate matter) may result when fine sediment is resuspended in the river during excavation and backfilling, installation of streamflow diversion devices, bridge and ramp construction, installation of cofferdams, installation of pipes, culverts and gabions, roadway removal and repaving and vegetation removal and replanting. Turbidity may cause indirect harm, injury, or mortality to juvenile steelhead in the vicinity and downstream of the project area. High turbidity concentrations can cause fish mortality, reduce fish feeding efficiency and decrease food availability (Berg and Northcote 1985, McLeay et al. 1987, Gregory and Northcote 1993). The effect of any elevated turbidity level on juvenile anadromous fish is difficult to evaluate as the amount of sediment contributed and the resulting turbidity level is speculative. The duration and concentration of the turbidity would depend on the extent of the activities listed above and the efforts taken to eliminate and minimize activities within the streambed. NMFS believes turbidity levels could increase substantially over ambient levels during each construction period over the lifetime of project construction. However, based on the implementation of proper control measures proposed by the applicant including a vegetation protection plan, stormwater pollution prevention plan, erosion and sediment control plan, and limiting in-channel construction to the summer, low-precipitation period, turbidity in the project area will likely only be a temporary and minor impact on the steelhead that may be present.

FISH PASSAGE IMPROVEMENTS

Barriers to fish passage through the Guadalupe River project area and to the upstream mitigation site will be removed or modified to improve fish passage. Proposed channel modifications include the removal of the USGS gaging weir upstream of the St. John Street bridge and replacement with an invert stabilization structure designed to accommodate fish passage under low-flow conditions. An exposed gas and sewer line that crosses the river under the Old Julian Street bridge will be relocated. Removing barriers in the project area will improve access for fish migrating from San Francisco Bay upstream to the mitigation sites on

Guadalupe Creek. The project action will improve passage for steelhead on the Guadalupe River system because existing impediments during certain low flow regimes currently hamper steelhead passage.

V. CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. Activities that may occur in the action area include the Guadalupe River Park Project (master plan for the development of recreational facilities along the Guadalupe River), the San Jose International Airport Expansion Plan (street widening, bridge removal and replacement) and the Santa Clara Valley Water District Maintenance Program (streambed maintenance). .Population growth in the area (e.g., net population change of 423,200 has occurred from 1990-1997 in the San Francisco-Oakland-San Jose metropolitan area (U. S. Census Bureau 1998)) could add additional sources of surface water runoff in the project area. The cumulative effects of the anticipated projects may exacerbate water quality conditions, primarily sedimentation and turbidity during river construction.

VI. INTEGRATION AND SYNTHESIS OF EFFECTS

Based on the effects analysis, the most serious impact to steelhead in the project area of the Guadalupe River appears to be the temporary and permanent alteration of riparian habitat, instream habitat structure and interruption of functioning instream habitat. All of these impacts are expected to result in harm or mortality to adult and juvenile steelhead. While the alteration and interruption of bank and instream habitat will be permanent in some areas, its removal does not impose an adverse threat to the survival and recovery of steelhead in the Guadalupe River system for four reasons. First, the project, which spans a 2.6 mile section of a highly urbanized section of the Guadalupe River, has been intentionally designed to avoid and minimize the loss of riparian habitat. Of this river stretch, 61 percent of the existing riparian vegetation and 59 percent of the existing SRA cover will be affected but fully mitigated in both the project area and at offsite mitigation areas with plantings of native vegetation. In addition, the use of two bypass channels substantially lessens the impacts to existing riparian and SRA cover habitat. Second, instream impacts will be mitigated by including an artificial low-flow channel in the design of the armored sections of the river bottom to provide fish passage throughout the project area. Invert stabilization structures placed in the natural river bottom will provide a natural low-flow channel and incorporate particular habitat features such as plunge pools and riffle habitat into the project design. Further, river-run gravels will be placed at appropriate spawning habitat locations whenever gravel coverage drops below established guidelines. Third, all alterations to instream habitat will be fully mitigated and an adaptive management strategy will be implemented to insure that measurable indicators of performance are met as part of an ongoing comprehensive mitigation and monitoring plan that will be supervised by an adaptive management team comprised of members of the Colloborative. NMFS has been an active participant with other state and federal natural resource agencies in the development of the plan as part of the Guadalupe River Flood Control Project Collaborative and undoubtedly will continue in a supervisory role with the other state and federal natural resource agencies. Lastly, because all habitat impacts not mitigated onsite will be compensated by offsite mitigation efforts at Reach A and Guadalupe Creek this will extend the available habitat to steelhead in other reaches both upstream and downstream of the project area in the Guadalupe River watershed that currently do not exist. These net benefits to steelhead habitat should assist in the recovery of the population and improve the viability of steelhead in this particular system. The remaining project effects and cumulative effects are fairly minor in nature and do not impose serious threats to this steelhead population or to the larger ESU.

While some areas of the project area will modify habitat, the replacement of riparian and SRA cover habitat, spawning gravels, the creation of pool and riffle habitat and the removal of fish barriers will maintain and improve the character of habitat such that the project action will not diminish the value of critical habitat for both the survival and recovery of steelhead.

VII. CONCLUSION

After reviewing the best available scientific and commercial data, the current status of steelhead, the environmental baseline for the action area, the effects of the flood control project, and the cumulative effects, it is NMFS' biological opinion that the project action, as proposed, is not likely to jeopardize the continued existence of the federally threatened Central California Coast ESU of steelhead or result in the destruction or adverse modification of its critical habitat.

VIII. INCIDENTAL TAKE STATEMENT

Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7 (b) (4) and 7 (o)(2), taking that is incidental to and not intended as part of the proposed action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with this Incidental Take Statement.

Section 7 (b)(4) of the ESA provides for the issuance of an incidental take statement for the agency action if the biological opinion concludes that the proposed action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. In such a situation, NMFS will issue an incidental take statement specifying the impact of any incidental taking of endangered or threatened species, providing Reasonable and Prudent Measures that are necessary to minimize impacts, and setting forth the Terms and Conditions with which the action agency must comply in order to implement the Reasonable and Prudent Measures.

The measures described below are non-discretionary and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the SCVWD, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this Incidental Take Statement. If Corps (1) fails to assume and implement the Terms and Conditions or (2) fails to require the SCVWD to adhere to the Terms and Conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impact on the species to NMFS as specified in the Incidental Take Statement (50 CFR §402.14(I)(3)).

Amount or extent of take anticipated

The NMFS anticipates incidental take of steelhead will be difficult to detect due to the dimensions and variability of the Guadalupe River system and the operational complexities of the phased flood control construction activities. However, the instream and riparian habitat of the steelhead will be both temporarily or permanently modified by the proposed action. This modification is expected to result in the harm, harassment, and mortality of juvenile and adult steelhead by changing water temperatures, prey availability and reducing available spawning habitat. Therefore, the level of take of this species is measured by the temporary loss of an estimated 7.6 acres of riparian vegetation, 4,634 linear feet of SRA cover habitat and 20,500 ft^2 of spawning gravel habitat. These losses adversely affect adult steelhead spawning and juvenile steelhead rearing and foraging opportunities and may result in reduced survival. In addition, some fish may be stranded during construction (and relocated). NMFS believes that stranding will be a rare event that will affect a few fish, probably less than ten fish per construction season. If stranded fish are relocated, it is likely that most will survive the relocation, thereby minimizing impacts to the population. NMFS anticipates that no more than 10 percent of the relocated fish may die as a result of capture and handling methods/effects. Take is not expected to occur from bypass channel operations.

Effect of the take

In the accompanying biological opinion/conference opinion, NMFS determined that this level of anticipated take is not likely to result in jeopardy to the Central California Coast Steelhead ESU.

Reasonable and Prudent Measures

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of threatened Central California Coast Steelhead caused by activities related to the Guadalupe River Flood Control Project:

1. Avoid and minimize bank and instream construction impacts to the Guadalupe River ecosystem.

2. Minimize the extent of temporary and permanent changes to instream and riparian habitat and ensure that proposed mitigation measures used to replace these losses meet identified measurable objectives (U. S. Army Corps of Engineers and Santa Clara Valley Water District 2000).

3. Use a fisheries biologist for the purposes of monitoring the affected area, and for removing and relocating steelhead from the affected area.

4. Implement adequate control measures to avoid or minimize sediment, turbidity and pollutant inputs to the Guadalupe River.

5. Prepare and submit monitoring reports annually to document status of construction as well as mitigation activities and performance.

Terms and Conditions

The Corps is responsible for the following Terms and Conditions that implement the reasonable and prudent measures described above. These Terms and Conditions are intended to minimize incidental take of steelhead associated with the Guadalupe River Flood Control Project.

1. The following Terms and Conditions implement Reasonable and Prudent Measure No. 1.

   A. The Corps and SCVWD shall isolate each workspace from flowing water for the purpose of avoiding heavy equipment in flowing water, sedimentation, turbidity, and direct effects to steelhead. Prior to construction activities, diversion materials shall be installed (e.g., sandbag cofferdams, straw bales to divert streamflow away or around each workspace. The diversion shall remain in place during the project construction, then removed immediately after work is completed.

   B. The Corps and SCVWD shall ensure and maintain a corridor for unimpeded passage of steelhead during construction of the project action.

   C. When practical, the Corps and SCVWD shall use existing points of ingress or egress, or perform work from the top of the river bank, for the purposes of avoiding work and heavy equipment in flowing water, and disturbing riverbank, vegetation, and instream habitat.

   D. The Corps and SCVWD shall confine in-channel construction activities to the summer low-precipitation period (April 15 - October 15), with the condition that construction requiring stream dewatering, stream crossing or work in the channel invert not commence until May 1 assuming that two stream-monitoring criteria are met. The first is that a qualified fisheries biologist (see Term and Condition No. 3A) survey the project area and verify the absence of juvenile steelhead for a minimum of three consecutive sampling days. The second is that average daily water temperatures exceed 68^0 F for a minimum of three consecutive days. Should stream-monitoring criteria not be met, channel invert work and stream dewatering will not be allowed until June 1.

   E. All aquatic macrofauna that may be affected by instream activities shall be removed from the work site by a qualified fishery biologist (see Term and Condition No. 3B) and placed downstream.

   F. The Corps and SCVWD shall examine all opportunities for reducing the amount of hardscape bank and river bottom armoring (e.g., New Julian Bridge, Coleman Avenue Bridge, bypass system inlet structures) whenever possible.

   G. The Corps and SCVWD shall design a low-flow channel and bypass channel outlets for both the Santa Clara Street-Coleman Avenue bypass and the Woz Way-Park Avenue bypass protective to steelhead and approved by NMFS.

H. A worker education program shall be conducted prior to construction activities on the importance of protecting steelhead and their critical habitat and the project measures to do so.

2. The following Terms and Conditions implement Reasonable and Prudent Measure No. 2.

A. The Corps or SCVWD shall photograph the project area prior to and after each construction season for the purpose of developing a reference library of instream and riparian habitat characteristics.

B. The Corps and SCVWD shall prepare and implement a Mitigation and Monitoring Plan to address the replacement and reestablishment of riparian vegetation (including SRA cover) and instream habitat functions. The pan will also describe maintenance procedures to protect and enhance the riparian system. The Mitigation and Monitoring Plan shall include offsite SRA mitigation that could expand the existing range of steelhead in the watershed. The plan shall be submitted to NMFS for review and approval before initiating construction. NMFS shall provide in writing either concurrence with the plan or notification to the Corps and SCVWD that plan modifications are necessary for acceptance.

C. The Corps and SCVWD shall incorporate an adaptive management process to insure that monitored indicators of measurable objectives are fully met and, if necessary, appropriate remedial actions are taken to ensure that agreed upon ecological functions and habitat values defined in the MMP and affected by the project are reestablished and maintained.

D. All mitigation areas that have been set aside as compensation for project impacts resulting from this project or any other project will not be disturbed or impacted during construction activities and will be preserved in perpetuity and not used as mitigation for other projects.

E. The Corps and SCVWD shall prepare and implement a Vegetation Protection Plan to prevent the inadvertent loss of riparian vegetation above and beyond that necessarily resulting from project construction activities. The plan will also describe remedial actions required if preserved trees are inadvertently impacted by construction activities. The plan shall be submitted to NMFS for review and approval before initiating construction. NMFS shall provide in writing either concurrence with the plan or notification to the Corps and SCVWD that plan modifications are necessary for acceptance.

3. The following Terms and Conditions implement Reasonable and Prudent Measure No. 3.

A. The Corps and SCVWD shall retain a fisheries biologist with expertise in the areas of resident or anadromous salmonid biology and ecology, fish/habitat relationships, and biological monitoring; and, handling, collecting, and relocating salmonid species. The biologist will monitor activities prior to and during inchannel activities especially during temporary blockage or redirection of the flow of water through the use of coffer dams or culverts.

B. The biologist shall monitor placement and removal of channel diversions for the purpose of removing any steelhead that would be adversely affected. The biologist shall capture such steelhead and individuals stranded in residual wetted areas as a result of streamflow diversion and workspace dewatering, and relocate the individuals to a suitable instream location immediately upstream or downstream of the particular project area. One or more of the following NMFS approved methods shall be used to capture steelhead: dip net, seine, throw net, minnow trap, and, hand. Electrofishing may only be used if NMFS has reviewed the biologist's qualifications and given approval. The biologist shall note the number of individual steelhead observed in the affected area, the number of individuals relocated, and the date and time of the collection and relocation.

C. The biologist shall monitor inchannel activities, instream habitat, and performance of sediment control/detention devices (see Term and Condition No. 4) for the purpose of identifying and reconciling any condition that could adversely affect steelhead or their habitat. The Corps and SCVWD and their contractors, upon notification from the biologist, shall halt the work activity causing the condition affecting steelhead and recommend measures for avoiding the condition. Work can resume when NMFS agrees that the proposed measures are appropriate for avoiding the condition.

D. The biologist shall contact NMFS (707-575-6050) immediately if one or more steelhead are found dead or injured. The purpose of the contact shall be to review the activities resulting in take and to determine if additional protective measures are required.

4. The following Terms and Conditions implement Reasonable and Prudent Measure No. 4.

A. Erosion control and sediment detention devices shall be incorporated into the project and implemented at the time of the project action. These devices shall be in place during the project action, and after if necessary, for the purpose of minimizing fine sediment and sediment/water slurry input to flowing water. The devices shall be placed at all locations where the likelihood of sediment input exists.

B. At the time of the project action, the Corps and SCVWD shall prepare and implement a Storm Water Pollution Prevention Plan as part of the National Pollutant Discharge Elimination System (NPDES) to avoid or minimize increased sediment and turbidity impacts. This plan will be reviewed and approved by NMFS prior to construction.

C. The Corps and SCVWD shall prepare and implement an Erosion and Sediment Control Plan for minimizing the potential for sediment input into the stream, a Toxic Material Control and Spill Response Plan for preventing toxic material spills, a Soil Management Plan that provides criteria for classifying wastes in soil and managing soils possibly contaminated with mercury and methyl mercury concentrations and a Hazardous and Toxic Materials Contingency Plan in the event that unlisted hazardous and toxic sites are uncovered during construction.

D. The Corps and SCVWD shall fully cooperate with state and federal agencies involved with mercury contamination issues to insure that actions involving the flood control project including mitigation issues are compatible and conducted in a cooperative manner with potential mercury contamination cleanup actions.

E. All water within the construction site shall be pumped off-site or into a settling basin or tank and not directly into the downstream channel.

F. All pilings, support piers, abutments and rock materials shall be non-toxic. Any combination of wood, plastic, concrete, or steel is acceptable, provided that there are no toxic coatings, chemical antifouling products, or other treatments that may leach into the surrounding environment.

5. The following Terms and Conditions implement Reasonable and Prudent Measure No. 5.

A. The Corps and SCVWD shall provide a written construction monitoring report to NMFS within 30 working days following completion of each construction season (no later than November 30). The report shall include the number of steelhead killed or injured during the project action and biological monitoring; the number and size of steelhead; any effect of the project action on steelhead that was not previously considered (reinitiation of consultation would be required, see section IX, item 2 of the Biological Opinion); photographs documenting compliance with Reasonable and Prudent Measures No. 1, 2 and 4; and, photographs taken before and after work activity.

B. The Corps and SCVWD shall provide a written report describing results of their mitigation activities to NMFS on a schedule that is developed in the Mitigation and Monitoring Plan. At the very minimum, the report shall include a description of the locations planted or seeded, the area (ft^2) revegetated, a plant palette, planting or seeding methods, performance or success criteria, and pre- and post-planting color photographs of the revegetated area.

C. The Corps and SCVWD shall provide a written report describing results of their Vegetation Protection Plan to NMFS on a schedule that is developed during the adoption of the plan.

D. All reports, proposed plans, and annual updates shall be submitted to: Protected Resources Division Supervisor, NMFS, 777 Sonoma Ave., Room 325, (707) 575-6050, Fax (707) 578-3435.

IX. REINITIATION OF CONSULTATION

Reinitiation of formal consultation is required if there is discretionary Federal involvement or control over the action and if (1) the amount or extent of taking specified in any incidental take statement is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. If the amount or extent of incidental take is exceeded, consultation shall be reinitiated immediately.

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Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS[3]

The Pacific Fisheries Management Council has recommended an EFH identification for the Pacific salmon fishery which has yet to be approved by the Secretary of Commerce. If approval occurs before the Corps has issued a permit, they will need to provide a detailed response in writing describing the measures proposed by the Corps for avoiding, mitigating, or offsetting the impacts of the project on EFH.

I. IDENTIFICATION OF ESSENTIAL FISH HABITAT

The geographic extent of freshwater essential fish habitat (EFH) for the Pacific salmon fishery is proposed as waters currently or historically accessible to salmon within specific U. S Geological Survey hydrologic units (Pacific Fisheries Management Council 1999). For San Francisco Bay, the aquatic areas that may be identified as EFH for salmon are within hydrologic unit maps numbered 1805003 and 1805004 (titled Coyote and San Francisco Bay, respectively) that includes Santa Clara County through which the Guadalupe River flows.

Chinook salmon (*Oncorhynchus tshawytscha*) occur in the Guadalupe River drainage and may be part of the California Central Valley fall/late-fall run ESU[4]. Adults have been documented on the Guadalupe River at least since 1986 (Ulmer 1988 as reported in USFWS 1998). Adults are known to migrate up the Guadalupe River and have been reported as far upstream at the Alamitos drop structure immediately upstream of Blossom Hill Road (Santa Clara Valley Water District and U. S. Army Corps of Engineers 1998). Within the project area, chinook were observed spawning in November of 1986 and 1987 in Reach 9 (Santa Clara Valley Water District and U. S. Army Corps of Engineers 1998). During stream surveys in 1987, 28-31 redds were found at 13 potential spawning sites from Canoas Creek to I-280 with the greatest concentration (12-13 each) observed in Reaches 7A and 9A. The number of redds appears to be increasing as 57 were counted in the river in the 1995-96 season (Santa Clara Valley Water District and U. S. Army Corps of Engineers 1998). Juvenile chinook have also been documented in Reach 11 (Santa Clara Valley Water District and U. S. Army Corps of Engineers 1998). Based on the observations of redds and juvenile chinook salmon in the project area,

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[3] The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) set forth new mandates for the National Marine Fisheries Service (NMFS) and federal action agencies to protect important marine and anadromous fish habitat. Federal action agencies which fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to NMFS "EFH Conservation Recommendations."

[4] Recent changes to the listing of chinook salmon under the Endangered Species Act for the Guadalupe River are noted in the Federal Register (Vol. 64, No. 179, September 16, 1999). NMFS has found that the Central Valley fall and late-fall chinook evolutionarily significant unit does not warrant a threatened status as originally proposed. NMFS will protect and enhance the habitat of these chinook salmon through the "essential fish habitat" provisions of the Magnuson-Stevens Act.

NMFS also believes that the areas affected by the project action may provide essential fish habitat (EFH) for spawning and rearing chinook salmon.

LIFE HISTORY AND HABITAT REQUIREMENTS

General life history information for chinook salmon is summarized below. Further detailed information on chinook salmon ESUs are available in the NMFS status review of chinook salmon from Washington, Idaho, Oregon, and California (Myers et al. 1998), and the NMFS proposed rule for listing several ESUs of chinook salmon (NMFS 1998).

Chinook salmon spawning generally occurs in swift, relatively shallow riffles or along the edges of fast runs at depths greater than 6 inches, usually 1-3 feet to 10-15 feet. Preferred spawning substrate is clean loose gravel. Gravels are unsuitable when they have been cemented with clay or fines or when sediments settle out onto redds reducing intergravel percolation (NMFS 1997).

At the time of emergence from their gravel nests, most fry disperse downstream towards the estuary, hiding in the gravel or stationing in calm, shallow waters with fine sediments substrate and bank cover such as tree roots, logs, and submerged or overhead vegetation. As they grow, the juveniles associate with coarser substrates along the stream margin or farther from shore (Healey 1991). Along the emigration route, submerged and overhead cover in the form of rocks, submerged aquatic vegetation, logs, riparian vegetation, and undercut banks provide food, shade and protect juveniles from predation. Chinook salmon in the Southern Oregon and California Coastal ESU exhibit an ocean-type life history, that is, they typically migrate to seawater in their first year of life (NMFS 1998). However, when environmental conditions are not conducive to subyearling emigration, ocean-type chinook salmon may remain in freshwater for their entire first year (NMFS 1998).

Principal foods of chinook while rearing in freshwater and estuarine environments are larval and adult insects and zooplankton such as *Daphnia*, flys, gnats, mosquitoes or copepods (Kjelson et al. 1982), stonefly nymphs or beetle larvae (Chapman and Quistdorff 1938) as well as other estuarine and freshwater invertebrates.

II. PROPOSED ACTION

The proposed action is described in Part II of the preceding Biological Opinion for the threatened Central California Coast Steelhead ESU.

III. EFFECTS OF THE PROJECT ACTION

Due to the common habitat requirements shared by steelhead and chinook salmon including migration corridors, water quality conditions, thermal preferences, and rearing and spawning habitat requirements, the direct, indirect and cumulative adverse effects of the proposed project actions predicted for steelhead will also adversely effect the potential EFH for chinook salmon. Adverse effects to EFH will result from activities associated with site preparation, excavation of the channel bed and bank, streamflow diversion, workspace dewatering and installation of bank structures. These project activities will result in temporary and permanent losses of riparian habitat, rearing and spawning habitat, temporary changes in water temperature, possible sedimentation and turbidity events, and interruptions in ecosystem functions in the instream habitat. These effects are discussed in greater detail in the preceding Biological Opinion.

IV. CONCLUSION

Upon review of the effects of the flood control project, NMFS believes that the project action, as proposed, will adversely affect the potential EFH of chinook salmon in the project area of the Guadalupe River.

V. EFH CONSERVATION RECOMMENDATIONS

NMFS recommends that Reasonable and Prudent Measures Nos. 1, 2, 4 and 5 and their respective Terms and Conditions listed in the Incidental Take Statement prepared for the Central California Coast Steelhead ESU in the preceding Biological Opinion, and, appropriate for EFH, be adopted. Reasonable and Prudent Measures Nos. 1, 2, 4 and 5 and their respective Terms and Conditions are repeated below as Conservation Recommendations:

Conservation Recommendations

1. Avoid and minimize bank and instream construction impacts to the Guadalupe River ecosystem.

2. Minimize the extent of temporary and permanent changes to instream and riparian habitat and ensure that proposed mitigation measures used to replace these losses are fully successful.

3. (Not included)

4. Implement adequate control measures to avoid or minimize sediment, turbidity and pollutant inputs to the Guadalupe River.

5. Prepare and submit monitoring reports annually to document status of construction and mitigation activities and performance.

Terms and Conditions

The Corps should consider the following Terms and Conditions that implement the Conservation Recommendations described above.

1. The following Terms and Conditions implement Conservation Recommendation No. 1.

    A. The Corps and SCVWD should isolate each workspace from flowing water for the purpose of avoiding heavy equipment in flowing water, sedimentation, and turbidity. Prior to construction activities, diversion materials should be installed (e.g., sandbag cofferdams, straw bales to divert streamflow away or around each workspace. The diversion should remain in place during project construction, then removed immediately after work is completed.

B. The Corps and SCVWD should ensure and maintain a corridor for unimpeded passage of chinook during construction of the project action.

C. When practical, the Corps and SCVWD should use existing points of ingress or egress, or perform work from the top of the river bank, for the purposes of avoiding work and heavy equipment in flowing water, and disturbing riverbank, vegetation, and instream habitat.

D. A worker education program should be conducted prior to construction activities each on the importance of protecting EFH and the measures to do so.

2. The following Terms and Conditions implement Conservation Recommendation No. 2.

A. The Corps or SCVWD should photograph the project area prior to and after each construction season for the purpose of developing a reference library of instream and riparian habitat characteristics.

B. The Corps and SCVWD should prepare and implement a Mitigation and Monitoring Plan to address the replacement and reestablishment of riparian vegetation (including SRA cove:` and instream habitat functions. The pan should also describe maintenanc procedures to protect and enhance the riparian system. The Mitigation and Monitoring Plan should include offsite SRA mitigation that could expand the existing range of steelhead in the watershed. The plan should be submitted to NMFS for review and approval before initiating construction. NMFS shall provide in writing either concurrence with the plan or notification to the Corps and SCVWD that plan modifications are necessary for acceptance.

C. The Corps and SCVWD should incorporate an adaptive management process to insure that monitored indicators of measurable objectives are fully met and, if necessary, appropriate remedial actions are taken to ensure that agreed upon ecological functions and habitat values defined in the MMP and affected by the project are reestablished and maintained.

D. All mitigation areas that have been set aside as compensation for project impacts resulting from this project or any other project should not be disturbed or impacted during construction activities and should be preserved in perpetuity and not used as mitigation for other projects.

E. The Corps and SCVWD should prepare and implement a Vegetation Protection Plan to prevent the inadvertent loss of riparian vegetation above and beyond that necessarily resulting from project construction activities. The plan should also describe remedial actions required if preserved trees are inadvertently impacted by construction activities. The plan should be submitted to NMFS for review and approval before initiating construction. NMFS shall provide in writing either concurrence with the plan or notification to the Corps and SCVWD that plan modifications are necessary for acceptance.

3. (Not included)

4. The following Terms and Conditions implement Conservation Recommendation No. 4.

   A. Erosion control and sediment detention devices should be incorporated into the project and implemented at the time of the project action. These devices should be in place during the project action, and after if necessary, for the purpose of minimizing fine sediment and sediment/water slurry input to flowing water. The devices should be placed at all locations where the likelihood of sediment input exists.

   B. At the time of the project action, the Corps and SCVWD should prepare and implement a Storm Water Pollution Prevention Plan as part of the National Pollutant Discharge Elimination System (NPDES) to avoid or minimize increased sediment and turbidity impacts. This plan should be reviewed and approved by NMFS prior to construction.

   C. The Corps and SCVWD should prepare and implement an Erosion and Sediment Control Plan for minimizing the potential for sediment input into the stream, a Toxic Material Control and Spill Response Plan for preventing toxic material spills, a Soil Management Plan that provides criteria for classifying wastes in soil and managing soils possibly contaminated with mercury and methyl mercury concentrations and a Hazardous and Toxic Materials Contingency Plan in the event that unlisted hazardous and toxic sites are uncovered during construction.

   D. The Corps and SCVWD should fully cooperate with state and federal agencies involved with mercury contamination issues to insure that actions involving the flood control project including mitigation issues are compatible and conducted in a cooperative manner with potential mercury contamination cleanup actions.

   E. All water within the construction site should be pumped off-site or into a settling basin or tank and not directly into the downstream channel.

   F. All pilings, support piers, abutments and rock materials should be non-toxic. Any combination of wood, plastic, concrete, or steel is acceptable, provided that there are no toxic coatings, chemical antifouling products, or other treatments that may leach into the surrounding environment.

5. The following Terms and Conditions implement Conservation Recommendation No. 5.

   A. The Corps and SCVWD should provide a written monitoring report to NMFS within 30 working days following completion of each construction season (no later than November 30). The report should include the number and size of chinook salmon killed or injured during the project action and biological monitoring; any effect of the project action on chinook salmon habitat that was not previously considered; photographs documenting compliance with Reasonable and Prudent Measures No. 1, 2, and 4; and, photographs taken before and after work activity.

B. The Corps and SCVWD should provide a written report describing results of their mitigation activities to NMFS on a schedule that is developed in the Mitigation and Monitoring Plan. At the very minimum, the report should include a description of the locations planted or seeded, the area (ft^2) revegetated, a plant palette, planting or seeding methods, performance or success criteria, and pre- and post-planting color photographs of the revegetated area.

C. The Corps and SCVWD should provide a written report describing results of their Vegetation Protection Plan to NMFS on a schedule that is developed during the adoption of the plan.

D. All reports, proposed plans, and annual updates should be submitted to:
Protected Resources Division Supervisor, NMFS, 777 Sonoma Ave., Room 325, (707) 575-6050, Fax (707) 578-3435.

Should these EFH conservation recommendations be implemented, significant improvements to the potential EFH of chinook salmon in the Guadalupe River are expected, and adverse impacts to their potential EFH would be mitigated.

VI. CORPS STATUTORY REQUIREMENTS

The Magnuson-Stevens Act and Federal regulations (50 CFR Sections 600.920) to implement the EFH provisions of the MSFCMA require federal action agencies to provide a written response to EFH Conservation Recommendations within 30 days of their receipt. Because the EFH designations for Pacific salmon have yet to be approved, this regulation does not apply until approved by the Secretary of Commerce at which time the 30 day period will commence. A preliminary response is acceptable if final action cannot be completed within 30 days. The Corps final response must include a detailed description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity. If the Corps response is inconsistent with our EFH Conservation Recommendations, the Corps must provide an explanation of the reasons for not implementing them.

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Kjelson, M.A., P.F. Raquel, and F. W. Fisher. 1982. Life history of fall-run juvenile chinook salmon, *Oncorhynchus tshawytscha*, in the Sacramento-San Joaquin estuary, California, p. 393-411. *In*: V.S. Kennedy (ed.). Estuarine comparisons. Academic Press, New York, NY.

Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lierheimer, T. C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Of Commerce, NOAA Tech Memo. NMFS-NWFSC-35, 443p.

National Marine Fisheries Service (NMFS). 1997. Proposed recovery plan for the Sacramento River winter-run chinook salmon. NMFS, Southwest Region, Long Beach, California. 288 p. plus appendices.

National Marine Fisheries Service (NMFS). 1998. Endangered and threatened species: Proposed endangered status for two chinook salmon ESUs and proposed threatened status for five chinook salmon ESUs; proposed redefinition, threatened status, and revision of critical habitat for one chinook salmon ESU; proposed designation of chinook salmon critical habitat in California, Oregon, Washington, Idaho. Federal Register 63 (45): 11482-11520. March 9, 1998.

Pacific Fishery Management Council (PFMC). 1999. Description and identification of essential fish habitat, adverse impacts and recommended conservation measures for salmon. Amendment 14 to the Pacific Coast Salmon Plan, Appendix A. PFMC, Portland, OR.

Santa Clara Valley Water District and Army Corps of Engineers. 1998. Administrative final, Environmental impact report/environmental impact statement for the Upper Guadalupe River Flood Control Project, Vol VI. K\WP\1998\Project\732840\FEIR-V6.

Ulmer, L. 1988. Anadromous fish species utilization of Guadalupe River and Coyote and Penetencia Creeks, Santa Clara County (1986-87). Unpublished file report. California Department of Fish and Game, Region 3. Yountville. 9pp + map.

U. S. Fish and Wildlife Service. 1998. Fish and Wildlife Coordination Act Report for the Guadalupe River Flood Control Project, Upper Reaches. USFWS, Division of Ecological Service, Sacramento, CA.

AUGUST 20 COMPLIANCE STATUS REPO FOR THE CONSTRUCTION STORM WATER GENERAL PERMIT

PROJECT NAME: GUADALUPE CREEK RESTORATION PR

WDID #: 2 43S316286

478
Permits

PART A: PERMITTEE INFORMATION

Owner Information (Note, if a change in ownership has occurred, the new owner must file a Notice Of Intent (NOI) and the old owner must file a Notice of Termination (NOT):

Name: SANTA CLARA VALLEY WATER DIST
Contact: AL GUREVICH
Phone: 4082652607

Street: 5750 ALMADEN EXPWY
City: SAN JOSE State:
Zip Code: 95118

Developer Information: (CONTRACTOR)

Name: FERMA CORP
Contact: MARK ABU TAIR
Phone: 6509612742

Street: 1265 MONTECITO AVE STE 200
City: MOUNTAIN VIEW State:
Zip Code: 94043

PART B: CONSTRUCTION SITE INFORMATION

(Please complete all of the following information. Failure to do so may be considered noncompliance.)

Project Name: GUADALUPE CREEK RESTORATION PR
Site Latitude: **Site Longitude:**
Site Address (Street and main cross-street): BETWEEN ALMADEN EXPWY MASSON D
Site City: SAN JOSE **Site Zip Code:** 95118
Site Phone: 408 499 1546 **ext. #:** **Site Fax #:**
Project Manager: AL GUREVICH **Manager's Cellular #:** (408) 391-1798
Manger's Pager #:
Size of Site (acres): 100
# Acres Remaining to be Disturbed: 6
% of Site's Area Disturbed : 006
% of Site's Mass Grading: 27
% Impervious Coverage Before Activity: 0
Projected % Impervious Coverage upon completion: 0
Expected Completion Date of Grading: 10/30/01
Expected Completion Date of Site Project: 12/31/01

PART C: CONTACT INFORMATION

Contact Person for Permit Compliance Concerns (Who should respond to requests from the Regional Board for technical reports? If same information as in 'Owner Information' section, then please leave blank.):

Name: AL GUREVICH Title: ENG. UNIT MGR GUADALUPE WATERSHED Phone #: (408) 265-2607 ext. #: 2217
Cellular Phone #: 408 891 1798 Pager #: Fax #: 408 265 3450
Street: ~~5750~~ 5750 ALMADEN EXP.
City: SAN JOSE, CA State: CA Zip: 95118

AUGUST 2001's COMPLIANCE STATUS REPORT FOR THE CONSTRUCTION STORM WATER GENERAL PERMIT

PART D: NARRATIVE DESCRIPTION OF WORK

On this sheet or on an attached sheet, you must include a narrative description of the following items.

- Current project status including, but not limited to grading, site disturbance, erosion and sediment control practices already in effect.
- Best Management Practices (BMPs – effective erosion and sediment control measures) that will be implemented prior to the next wet season (2001-2002), **including time schedule**.
- Describe any major upcoming events such as project completion, land disturbances, selling of parcels, or transfer of ownership.
- Construction Time Schedule.

IF YOU HAVE A PERMIT AND HAVE NOT STARTED CONSTRUCTION ACTIVITY, PLEASE EXPLAIN BRIEFLY THE STATUS OF YOUR PROJECT AND PROVIDE CONSTRUCTION TIME SCHEDULE.

PART E: SECTION A of the GENERAL PERMIT, STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Section A.1-4:

Are you implementing a SWPPP? ☑ Yes ☐ No

If yes, date SWPPP prepared: ________________ Date SWPPP last updated: ________________

Comments: ____

Section A.5-8:

Does your SWPPP include a description of potential pollutant sources, including storm water runoff containing sediment? ☑ Yes ☐ No

Note: If you have an active construction site, or you will have any soil disturbance activities during the wet season, then you must submit a map.

If yes, attach a **copy of the color-coded site map** with a **legend** included showing:

- Areas of soil disturbance that have been stabilized.
- Areas of active grading.
- Areas to be graded along with a time schedule.
- Areas of potential soil erosion where control practices will be implemented prior to October 15th. Also indicate the type of control practices and time schedule for implementation.
- Locations of post-construction projects (i.e. ponds and detention basins).
- Location of designated concrete wash-out pit and construction material storage area on site map.

Which of the following erosion and sedimentation control methods are included in your SWPPP?

☐ Temporary Seeding
☐ Permanent Seeding
☐ Mulching
☐ Sod Stabilization
☐ Vegetative Buffer Strips
☐ Protection of Trees
☐ Silt Fences
☐ Detention Basins
☐ Sediment Traps
☐ Sediment Basins
☐ Check Dams
☐ Fiber Rolls
☐ Brush Barriers
☐ Subsurface Drains
☐ Pipe Slope Drains
☐ Storm Drain Inlet Protection
☐ Drainage Swales
☐ Rock Outlet Protection
☐ Other ________________

Section A.9:

Have all non-storm water discharges from the site been eliminated or otherwise permitted? ☐ Yes ☐ No

If yes, please attach a description of the measures taken to eliminate all non-storm water discharges.

If no, please indicate which of the following non-storm water discharges exist on your site:

☐ Spills
☐ Pipe Testing
☐ Pipe Flushing
☐ Landscape Irrigation
☐ Storage Tanks Leaks
☐ Dewatering
☐ Wash Waters
☐ Dust Control Runoff
☐ Other ____________

Section A.10-13:

Your SWPPP must include control measures to reduce pollutants in storm water discharges after all construction phases are completed (Post-Construction), including an operations and maintenance schedule, short and long term funding sources, and responsible parties?

Please indicate which of the following post-construction measures will be implemented in your project/site:

☐ Clustered Development
☐ Constructed Storm water Wetlands
☐ Inlet Filters (e.g. ,"Fossil Filters")
☐ Infiltration Devices (e.g., infiltration trenches or basins)
☐ Media Filters (e.g., sand filters or compost storm water filters)
☐ Site Design ________________________ (e.g., draining roof runoff to landscaped areas)
☐ Other ________________________
☐ Wet Ponds
☐ Grassy Swales
☐ Oil/Water Separators
☐ Extended Detention Basins
☐ Home Owner Education
☐ Vegetated Filter Strips
☐ Porous Pavement

Comments: ____

August 2001's Compliance Status Report continued:

PROJECT NAME:

PART F: SECTION B of the GENERAL PERMIT, MONITORING PROGRAM AND REPORTING REQUIREMENTS

Section B.1-3:

Have you inspected your site prior to anticipated storms? ☐ Yes ☑ No
Frequency of inspections?
Comments: NO EVENTS ANTICIPATED ~~PRIOR TO~~ SINCE CONSTRUCTION START

Have you inspected your site following storm events? ☐ Yes ☑ No
Frequency of inspections?
Comments: NO STORM EVENTS

Have you kept records of all the wet and dry month inspections? ☐ Yes ☑ No

If yes, please attach a few examples of previously performed inspection reports.
Comments: N/A

Section B.4-6:

Do you certify, based on your site inspections, that your site is in compliance with the requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity?
☑ Yes ☐ No
Comments:

PART G: SECTION C of the GENERAL PERMIT, STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

Section C.10 and C.12:

" I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibly of fine and imprisonment for knowing violations."

Section C.9

Printed Name:

Signature: Date Signed:
(Please see Important Note #5 of enclosed attachments concerning allowable signatures.)

Title:

IMPORTANT INFORMATION

The Resolution No. 2001-046 was not sent with the attachments because it can be found at our website (www.swrcb.ca.gov) after clicking on the *Water Quality*, then *Storm water* icons (swrcb.ca.gov/stormwtr/index.html). It is called the "Newly Adopted Modifications of the General Permit Water Quality NO. 99-08-DWQ". A draft of the Storm water Sampling Guidance Document can also be downloaded in this section. All necessary forms, such as the NOT and the COI, are found when clicking one icon further on *Construction Program* at the end of the Construction Activities Storm water General Permit (swrcb.ca.gov/stormwtr/constfaq.html). More information on the reports as well as a blank copy of the Compliance Status Report can be located at our regional web page (www.swrcb.ca.gov/rwqcb/) under *Available Documents* as "Construction Storm water Annual Report Information".

1. Every Annual Report must come with a **color-coded** site map. This map must include all items in Section A.5 of the General permit (See our regional page stated above for more specific information).
2. Longitude and Latitude must be filled out, with minutes and seconds. (If unable to get exact coordinates, give as close as you are able and make a note in the comment section).
3. B.4 requires that copies of your monitoring records must be included in the Annual Report. **Not all of the records must be submitted.** Only one copy of your monitoring record for each month during the wet and dry seasons is needed.
4. If you are a developer and have sold any of the land covered in the permit, you must include the name and address of the purchaser. Your submitted map must also show this information.
5. Not everyone is allowed to sign the annual report. Provision C.9 on page 22 of General Permit gives specific guidelines on who can and cannot sign the annual report.
6. If your project site is complete and you are submitting an NOT, you are also required to submit photos of the completed project, a Post Construction implementation plan, and a site map, indicating the location of the photos.

Note that if any of the above-requested items are not complete on the submitted annual report, the permit tee may be fined up to $5,000.00 per day after the due date until the requested information is received. Note that the Board may not be able to notify the permittee of missing items until after the required due date. This may not reduce any liabilities incurred by the permittee. If you are unable to supply any of the above requested information, prior to the submittal date, contact the Board. Exceptions may be made on a case-by-case basis.

Finally, if a change of ownership has occurred, the new owner must submit a Notice of Intent and the previous owner must submit a Notice of Termination. It is also advised that the previous owner inform the new owner of the need to submit the proper documentation. For companies with a name change, send official documentation showing that the company has changed its name.

California R gional Water Quality ontrol Board

San Francisco Bay Region

Winston H. Hickox
Secretary for
ironmental
rotection

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Gray Davis
Governor

Date: August 24, 2001

AL GUREVICH
SANTA CLARA VALLEY WATER DIST
5750 ALMADEN EXPWY
SAN JOSE, CA 95118

SUBJECT: COMPLIANCE STATUS REPORT FOR THE CONSTRUCTION STORM WATER GENERAL PERMIT - WDID No.: 2 43S316286 - DUE SEPTEMBER 15, 2001

DEAR: AL GUREVICH

As the owner/developer of a site covered by the State's General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit), you are authorized to discharge storm water from the subject site as long as you comply with the terms and conditions of the General Permit. The General Permit requires you to annually certify that your construction activity is in compliance with its provisions.

This letter serves as a formal request for a Compliance Status Report, a technical report on the status of your compliance with the General Permit, pursuant to Section 13267(b) of the California Water Code. If your project site is complete, you may submit a Notice of Termination (NOT) to the Regional Board in lieu of submittal of the Compliance Status Report. Before submitting a NOT, please be sure that your project site meets all the conditions of termination. Please complete and submit the attached Compliance Status Report to the Regional Board no later than **September 15, 2000**. The report or the NOT should be mailed to the Board's address:

Attention: Alexa La Plante
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Though we anticipate your continued cooperation in this matter, please be aware that failure to respond or late response to this request may subject you to civil liability imposed by the Regional Board to a maximum amount of $5,000 per day.

COMPLETING AND SUBMITTING THE COMPLIANCE STATUS REPORT:
In completing the Compliance Status Report, if any information is missing, incorrect, or has changed, please either fill in the blanks or cross out the specific information and provide the correct or current information next to or above it. This is so that those reviewing the reports can clearly see the information change/s. **Note that you must respond to all the information requested and all the questions asked** in the Compliance Status Report, as well as **fulfill the signatory requirements of Part F** (Section C of the General Permit: Standard Provisions for Construction Activity). **Failure to do so will be considered noncompliance, which may result in staff recommending enforcement actions leading to Administrative Civil Liability issued by this Board.**

OBSERVED VIOLATIONS:

We continue to observe the following problems at many construction projects: the discharge of large amounts of uncontrolled sediment laden runoff due to the lack of erosion and sediment control measures, minimum or token measures, poor implementation of such measures, and/or poor operation and maintenance of measures in place. The Regional Board has made it clear that it will not accept this situation and has directed staff to take appropriate actions, including inspections and outreach. The Regional Board will also consider enforcement actions and has imposed significant penalties on developers who chose not to respond to staff requests to implement effective erosion and sediment control measures. Finally, please make sure that the Storm Water Pollution Prevention Plan (SWPPP) for your project is current, has been amended to be consistent with current site status, on site at all times, and has been implemented. **In addition, your SWPPP must also include a plan for sampling analysis per recent modification of the General Permit Resolution #2001-046 (attached).**

OUTREACH AND EDUCATIONAL PROGRAMS:

The San Francisco Estuary Project will be conducting a series of workshops, which include on-site field trips, in the months of August through October 2001, on Erosion and Sediment Control for Construction Projects, Pollution Prevention, and Section 401 Water Quality Certification. If you would like to attend any of these workshops, please complete the enclosed form and submit it, along with the fee, to Friends of the San Francisco Estuary, Attention: Carol Thornton. In addition, guidance documents are available to aid in the preparation of a SWPPP and the selection of appropriate control measures and management practices. These include **Guidebook: Information on Erosion & Sediment Controls for Construction Projects** and the **Erosion and Sediment Control Field Manual**. To obtain these documents or for more information about these workshops, you may contact Carol Thornton at (510) 622-2419 (email address: ct@rb2.swrcb.ca.gov).

If you have any questions regarding this request for a technical report, or if you would like additional information, please contact Alexa La Plante at (510) 622-2319 (email address: stu42@rb2.swrcb.ca.gov) or Hossain Kazemi at (510) 622-2369.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachments: Compliance Status Report
Important Information
Resolution No. 2001-046
Construction Site Planning and Management Workshop Brochure

Santa Clara Valley Water District

ADMINISTRATION BUILDING
5750 Almaden Expressway, San Jose, CA 95118-3686, (408) 265-2600

FAX NUMBER: (408) 445-2714

FAX TRANSMISSION

PLEASE NOTE: If the same FAX transmission is being sent to more than one company and/or agency, please provide required information.

DATE: 9/7/01

TO	COMPANY OR AGENCY	FAX NUMBER
MARK Abu-TAIR	FERMA CORP.	265-0458

FROM: Felix Palafox

REFERENCE:

Project #: GUAd. CK., C0478	Total Pages (Including Coversheet): 8	☐ Original will follow by:

MESSAGE: MARK Please Look over, in Advance, The Attached RWQCB Compliance status Report prior To our meeting Tues. After noon. (see Sect. 16.01 pg.4)

Call me if any Questions (408) 265-2607 x 2816

WHO SHOULD ATTEND

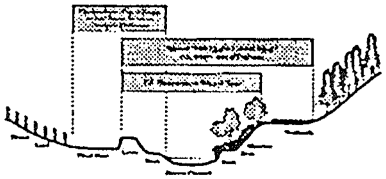
Municipal Public Works and Planning Staff
Field and Building Inspectors
Construction General Contractors and SubContractors
Developers
Consultants

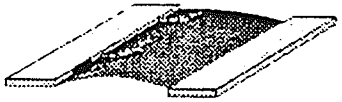
REGISTRATION INCLUDES

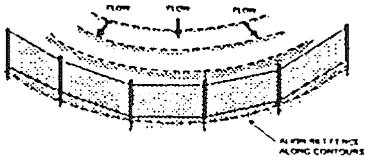
Continental Breakfast and Box Lunch
Erosion and Sediment Control Field Manual
Guidebook for Preparing SWPPP
Vendor Exposition
On-site Demonstrations
Certificate of Completion

SPONSORED BY

Seeno Development Corporation, Inc.



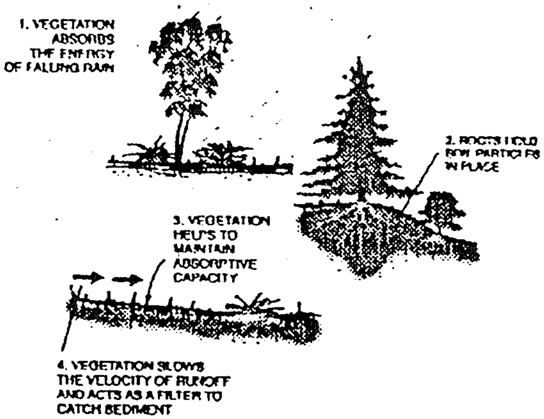




REGISTER ONLINE! http://www.abag.ca.gov/bayarea/sfep/programs/index.html

San Francisco Estuary Project
1515 Clay Street, Suite 1400
Oakland, CA 94612

CONSTRUCTION SITE PLANNING AND MANAGEMENT FOR WATER QUALITY PROTECTION


1. VEGETATION ABSORBS THE ENERGY OF FALLING RAIN
2. ROOTS HOLD SOIL PARTICLES IN PLACE
3. VEGETATION HELPS TO MAINTAIN ABSORPTIVE CAPACITY
4. VEGETATION SLOWS THE VELOCITY OF RUNOFF AND ACTS AS A FILTER TO CATCH SEDIMENT

A COOPERATIVE PROJECT OF THE SAN FRANCISCO ESTUARY PROJECT, THE SAN FRANCISCO BAY RWQCB AND FRIENDS OF THE ESTUARY

Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

APPLICATION AND PERMIT TO DIVERT DISTRICT SURFACE WATER

478
Permits

For Period: Continuous

GU000 232	GUADALUPE CREEK

NOTE: A separate application must be submitted for each owner of land served by this diversion.

PLEASE PRINT

HOLDER OF TITLE: SANTA CLARA VALLEY WATER DISTRICT

Address: 5750 ALMADEN EXPY City: SAN JOSE Zip: CA Phone: 265-2607 X 2817

Operator/Tenant Ferma Corporation

Address: 1265 Montecito Ave City: Mountain View Zip: 94043 Phone: (650) 961-2742

Request copy of invoice mailed to tenant: ☐ Yes ☑ No

Proposed source (stream or conduit) of diversion: Perolation Ponds adjacent to Guadalupe Creek and Mason Dam @ Guadalupe Creek.

Location of lands to be irrigated: Flat Plane (Banks) of Guadalupe Creek

APN: 567 -27 - 028

Does HOLDER OF TITLE claim prior rights to the use of natural flow in the stream? ☐ Yes ☑ No

Type of Diversion: Pumping to overhead Tanks Capacity (GPM): Intended Rate of Use: ~~Dust~~ 40,000 Gallon/day

AGRICULTURAL USE (water primarily used in the commercial production of agricultural crops and livestock):

ACRES	PLANT OR CROP TO BE IRRIGATED	CLAIMED RIPARIAN ACREAGE

NON-AGRICULTURAL USE (all water that does not qualify as agricultural water):

Acres: Usage: Dust control

The HOLDER OF TITLE states that he has received a copy of "RULES AND REGULATIONS FOR THE SERVICE OF SURFACE WATER" and that he has read and understands said RULES AND REGULATIONS and that he will abide by same. NOTE: The District makes no guarantee or warranty whatsoever as to the quality of the water to be served.

Date: 7-5-01 HOLDER OF TITLE: SCVWD

PERMIT

HOLDER OF TITLE is hereby granted a permit for the diversion and use of District water pursuant to the above application and in accordance with the provisions of "RULES AND REGULATIONS FOR THE SERVICE OF SURFACE WATER." This permit is revocable pursuant to said RULES AND REGULATIONS.

Date: 7-11-01 Approved By:

Acreage:

FC 220 (07-29-97)

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

REPLY TO
Regulatory Branch

APR 06 2001

SUBJECT: File Number 25809S

Mr. Dave Chesterman
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118

Dear Mr. Chesterman:

This is in reference to your submittal received December 29, 2000 requesting a Department of the Army authorization to implement a restoration project on Guadalupe Creek from the Masson Dam to the Almaden Expressway in the City of San Jose, Santa Clara County, California. The project will impact 1.52 acres of jurisdictional waters and wetlands along 4,541 linear feet of stream banks for the creation of floodplains; restoration of channel meander; stabilization of eroding banks with biotechnical treatments; and the restoration and creation of riffle, run and pool in-stream structures. The project will be constructed as described and depicted in the *Guadalupe Creek Restoration Project Between Almaden Expressway and Masson Dam Engineer's Report and Final Environmental Impact Report / Environmental Impact Statement* dated March 2001.

Based on a review of the information you submitted, your project qualifies for authorization under Department of the Army Nationwide Permit 27 for Stream and Wetland Restoration Activities, (61 FR 65874, December 13, 1996 and 65 FR 12818, March 9, 2000), pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).

The project must be in compliance with the General Conditions cited in Enclosure 1 for the Nationwide Permit authorization to remain valid. **Upon completion of the project and all associated mitigation requirements, you shall sign and return the enclosed Certification of Compliance**, Enclosure 2, verifying that you have complied with the terms and conditions of the permit. Non-compliance with any condition could result in the revocation, suspension or modification of the authorization for your project, thereby requiring you to obtain an individual permit from the Corps. This Nationwide Permit authorization does not obviate the need to obtain other State or local approvals required by law.

This authorization will remain valid until April 6, 2004 unless the Nationwide Permit is modified, suspended or revoked. If you have commenced work or are under contract to commence work prior to the suspension, or revocation of the Nationwide Permit and the project would not comply with the resulting Nationwide Permit authorization, you have twelve (12) months from that date to complete the project under the present terms and conditions of the Nationwide Permit.

To ensure compliance with the Nationwide Permit, the following special conditions shall be implemented:

1. The permittee shall submit, in writing, the anticipated start and stop dates of construction activities at least five days prior to initiation of construction.
2. The permittee shall implement all terms and conditions of the biological opinion issued by the US Fish and Wildlife Service on August 16, 2000 for impacts on the western snowy plover and the biological opinion issued by the National Marine Fisheries Service on August 11, 2000 for impacts on steelhead, its critical habitat and chinook salmon essential fish habitat. It is our understanding that you have a copy of these documents in your record. You may request a copy from the Corps, if required.
3. The permittee shall submit a post-construction report to the Corps no later than 90 days after completion of the initial installation activities. The report shall include as-built drawings, a written description of construction activities and color photos documenting the newly installed structures.
4. The permittee shall submit annual monitoring reports for three years after project construction as detailed in the *Guadalupe River Project Downtown San Jose, California Mitigation and Monitoring Plan* dated February 2001. These reports are due no later than June 30 starting in 2002. The reports shall include a quantitative description of the following indicators:
   a. Plant and tree shrub survival;
   b. Health and vigor of planted trees, shrubs and seeds;
   c. Natural recruitment of native species;
   d. Total vegetative cover;
   e. Non-native vegetative cover;
   f. Water temperature; and
   g. Anadromous fish passage and habitat quality.

   In addition, the annual reports will detail remediations when any of the above indicators are not meeting their measurable objectives.
5. The permittee shall implement all standard best management practices listed in Section 5.4 of the *Engineer's Report and Environmental Impact Report / Environmental Impact Statement for Guadalupe Creek Restoration Project from Almaden Expressway to Masson Dam, San Jose, CA*, dated March 2001.

You may refer all questions to Phelicia Gomes of our Regulatory Branch at 415-977-8452. All correspondence should reference the file number 25809S.

Sincerely,

Edward H. Wylie

Calvin C. Fong
Chief, Regulatory Branch

Enclosure 2

Permittee: **Santa Clara Valley Water District**

File No.: 25809S

Certification of Compliance
for
Nationwide Permit

"I hereby certify that the work authorized by the above referenced file number and all required mitigation have been completed in accordance with the terms and conditions of the nationwide permit."

(permittee)

2/6/02
(date)

Return to:

Phelicia Gomes
Department of the Army
U.S. Army Engineer District, San Francisco
333 Market Street, CESPN-OR-R
San Francisco, CA 94105-2197

STATE OF CALIFORNIA THE RESOURCES AGENCY
GRAY DAVIS, GOVERNOR

DEPARTMENT OF FISH AND GAME
CENTRAL COAST REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA CALIFORNIA 94558

May 31, 2001

Notification Number: R3-2000-0982

Dave Chesterman / Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

1601 LAKE AND STREAMBED ALTERATION AGREEMENT

This agreement is issued by the Department of Fish and Game pursuant to Division 2, Chapter 6 of the California Fish and Game Code:

WHEREAS, the applicant Dave Chesterman / Santa Clara Valley Water District, hereafter called the Operator, submitted a signed NOTIFICATION proposing to substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed or lake of the following water: Guadalupe Creek, tributary to Guadalupe River, in the County of Santa Clara, State of California; and

WHEREAS, the Department has determined that such operations may substantially adversely affect existing fish and wildlife resources including water quality, hydrology, aquatic or terrestrial plant or animal species; and

WHEREAS, the project has undergone the appropriate review under the California Environmental Quality Act; and

WHEREAS, the Operator shall undertake the project as proposed in the signed PROJECT DESCRIPTION and PROJECT CONDITIONS (attached). If the Operator changes the project from that described in the PROJECT DESCRIPTION and does not include the PROJECT CONDITIONS, this agreement is no longer valid; and

WHEREAS, the agreement shall expire on December 31, 2002; with the work to occur between June 1 and October 15 of each year; and

WHEREAS, nothing in this agreement authorizes the Operator to trespass on any land or property, nor does it relieve the Operator of the responsibility for compliance with applicable Federal, State, or local laws or ordinances. Placement or removal, of any material below the level of ordinary high water may come under the jurisdiction of the U. S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act;

THEREFORE, the Operator may proceed with the project as described in the PROJECT DESCRIPTION and PROJECT CONDITIONS. A copy of this agreement, with attached PROJECT DESCRIPTION and PROJECT CONDITIONS, shall be provided to contractors and subcontractors and shall be in their possession at the work site.

This agreement is approved by:

Robert W. Floerke
Regional Manager
Central Coast Region

cc: Margaret Roper
Wdn Imsdahl
L. Fox

STATE OF CALIFORNIA THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR
DEPARTMENT OF FISH AND GAME
CENTRAL COAST REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA CALIFORNIA 94558

Notification Number: R3-2000-0982

Dave Chesterman / Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118

PROJECT DESCRIPTION and PROJECT CONDITIONS

AE
DC

Description

The Santa Clara Valley Water District is proposing to establish shaded riverine aquatic cover vegetation and improve habitat in the lower reaches of Guadalupe Creek between Almaden Expressway and Masson Dam. The Guadalupe Creek Restoration Project is intended to provide SRA cover mitigation to offset environmental impacts associated with future Santa Clara Water District projects.

The proposed project will temporarily impact approximately 1.52 acres of waters of the United States, 1.1 acres of riparian scrub and forest, and 4,841 linear feet of stream channel. All work will be done according to the plans submitted to and on file with the Department of Fish and Game Yountville office.

Conditions

The agreement shall expire on December 31, 2002. Work within the stream channel shall be between June 1 and October 15 of each year. Construction may be extended on a day-to-day basis by contacting Department of Fish and Game Biologist Margaret Roper or the Yountville office at (707)944-5520.

If the Operator finds more time is needed to complete the authorized activity, the work period may be extended on a day-to-day basis by the local Department of Fish and Game representative who reviewed the project.

All work shall be done according to plans contained in the Guadalupe Creek Restoration Project, Summary of Proposed Construction and Maintenance Activities, Guadalupe River Flood Control Project, Biological Opinion and Essential Fish Habitat Conservation Recommendations (National Marine Fisheries Service, 8/11/00), Preconstruction Notification for the Guadalupe Creek Restoration Project (Jones & Stokes, 6/00) submitted to the Department of Fish and Game.

The operator shall notify the Department in writing of any modifications made to the project plans. Project modifications may require an amendment or a new application. Project modifications or mitigation plans shall be sent to:

Streambed Alteration Agreement R3-2000-0982
Department of Fish and Game
P.O. Box 47
Yountville, California 94599

Final construction plans shall be submitted to the Department prior to construction.

Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur. All soil/fill stockpiles shall be located above the elevation of the three (3)-year floodplain.

Storage areas for equipment, materials, fuels, lubricants, solvents, and other possible contaminants shall be located at least 100 feet away from the top of bank of the creek, and above the elevation of the three (3)-year floodplain. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

Ab
DC

Refueling and lubrication of equipment shall occur at storage areas, located as described in #12 above. During refueling and lubrication, a containment structure shall be placed under the area to contain spills or leakage.

Any accidental spill or leak that occurs outside of a containment structure shall be cleaned up the day it occurs by removing the spilled or leaked material and any ancillary material (e.g. soil, etc.) it has come in contact with.

Soils with a mercury concentration to or greater than 20 mg/kg (or 20 parts per million) shall be disposed of at a appropriately licensed Class 1 Landfill. Soils with a mercury concentration of less than 20 mg/kg (20 parts per million) may be reused onsite or disposed of at an appropriate landfill. If the soil is reused onsite, it shall be placed in areas where exposure to overbank flow is not expected, either above the water surface elevation of the three-year recurrence interval or as backfill away from the channel.

Soil material excavated onsite and reused to augment planting locations shall be stockpiles and tested separately from other excavated material.

All imported fill material shall be free of hazardous materials and debris.

All bank and instream habitat structures shall be constructed as described.

Woody material imported for use in bank stabilization structures shall not be from species known to have allelopathic properties (e.g. eucalyptus).

When work in a flowing stream is unavoidable, the entire streamflow shall be diverted around the work area. Water shall be diverted from the stream at Masson Dam and into the adjacent Los Capitancillos percolation pond system. Flows shall be ramped down at a rate of 0.5 cubic feet per second (cfs) per day, no earlier than 8:00am each day, until the stream channel is dry.

Any isolated seepage or recharge creating isolated wetted areas in the project area shall be dewatered using a pump with a screened (0.5-inch mesh) intake. Pumped water shall be desilted to less than ten (10) NTU's and discharged into the adjacent Los Capitancillos percolation ponds or to Guadalupe Creek downstream of the project area.

To compensate for the loss of stream flow to Guadalupe River, water may be discharged the same rate of the reduced or eliminated flow at one or both of the following locations:

a) Alamitos Creek turn out, approximately three-quarters of a mile upstream of Alamitos drop structure.

b) Through the overflow of Alamitos percolation pond, immediately downstream of Alamitos drop structure fish ladder, adjacent to SCVWD Headquarters.

Fish capture and relocation activities shall be conducted as described in the Guadalupe Creek Restoration Project Construction Area Dewatering and Fish Handling/Relocation Plan. Warm water native species shall be relocated to reaches of Guadalupe Creek upstream of the project area or Alamitos Creek only.

A summary of fish rescued and a copy of data collected shall be submitted to the Department via e-mail to sglushkoff@dfg.ca.gov , no later than two months after the fish rescue effort.

Upon completion of the project, diverted water shall be reintroduced to the restored channel, ramping up flows at a rate of 0.5 cfs per day until natural flow levels are restored to the channel.

Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Construction fencing shall be installed around all existing vegetation that is to remain in the project area. Fencing shall be maintained and repaired, if necessary, during the course of the project. At the completion of the project all fencing and associated material shall be removed from the project site.

Restoration shall include the revegetation of stripped or exposed areas. All planting shall be done between October 15 and January 15 to take advantage of the winter rainy season.

Revegetation and replacement plantings shall consist of locally obtained, native species.

Revegetation monitoring shall be conducted according to the methods described in Section 4.2 (Riparian Vegetation, pages 4-14 to 4-25) and Section 4.3 (Shaded Riverine Aquatic Cover, pages 4-25 to 4-43) of the Final General Re-Evaluation and Environmental Report for Proposed Project Modification, Guadalupe River Project Downtown San Jose, California, Volume 2B, dated February 2001.

An annual monitoring report shall be submitted to the Department Biologist, Margaret Roper, (P.O. Box 1727 Gilroy, California 95021) for the duration of mitigation monitoring no later than March 31 of the following year after fall monitoring.

Herbicide application for vegetation control shall occur three (3) days or more before predicted rainfall.

Rock, riprap, or other erosion protection shall be placed in areas where vegetation cannot reasonably be expected to become reestablished.

Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter waters of the State. At no time shall silt laden runoff be allowed to enter the stream or be placed where it may enter the stream.

No equipment will be operated in live stream channels.

Wash water containing mud or silt from aggregate washing or other operations shall not be allowed to enter a lake or flowing stream.

Silty/turbid water from the excavation and/or project activities shall not be discharged into the stream, lake, or into storm drains. Such water shall be pumped into holding facility or into a settling pond located in flat stable areas outside of the stream channel, or sprayed over a large area outside the stream channel or lake to allow for natural filtration of sediments. At no time shall turbid water from the settling ponds be allowed to enter back into the stream channel until water is clear of silt.. Stream turbidity adjacent to and immediately downstream of the project site shall not exceed 50 NTU's above background levels, as measured no more than 100 feet upstream of the upstream project boundary.

If a stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area.

Prior to project construction , a survey shall be conducted by a qualified biologist for nesting raptors. If raptors are nesting, there shall be no impacts to habitat within 300 feet of the raptor nests trees during the nesting season. The survey results shall be reported in writing to the Department.

The project site has been identified as an area that is potentially inhabited by the threatened Central California Coast evolutionary significant unit of steelhead. The Operator shall comply with the Guadalupe River Flood Control Project, Biological Opinion, and Essential Fish Habitat Conservation Recommendations, issues by the National Marine Fisheries Service and dated August 11, 2000.

The project site has been identified as an area that is potentially inhabited by a threatened species, California red-legged frog. The operator is required to comply with all applicable state and federal laws, including the California and Federal Endangered Species Acts. This agreement does not authorize the take of any state or federally listed species.

The operator will notify the Department of Fish and Game of the date of commencement of operations and the date of completion of operations at least five days prior to such completion.

If the Operator would like to renew the agreement beyond the expiration date, a written request for a renewal must be submitted to the Department (1600 Program, Post Office Box 47, Yountville, California 94599) for consideration at least 30 days before the agreement expiration date. A renewal constitutes an amendment to the original agreement and requires a fee of $127.25. Renewals of the original agreement are issued at the discretion of the Department.

The Operator shall notify the Department before any modifications are made in the project plans submitted to the Department. Project modifications may require an amendment or a new notification.

This agreement is transferable to subsequent owners of the project property by requesting an amendment.

A copy of this agreement must be provided to the Contractor and all subcontractors who work within the stream zone and must be in their possession at the work site.

Building materials and/or construction equipment shall not be stockpiled or stored where they could be washed into the water or where they will cover aquatic or riparian vegetation.

Debris, soil, silt, bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake, by Operator or any party working under contract, or with the permission of the Operator, shall be removed immediately.

During construction, the contractor shall not dump any litter or construction debris with in the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

If, in the opinion of the Department, conditions arise, or change, in such a manner as to be considered deleterious to the stream or wildlife, operations shall cease until corrective measures approved by the Department are taken.

Department personnel or its agents may inspect the work site at any time.

YOUR SIGNATURE BELOW DOES NOT ALONE CONSTITUTE A COMPLETED STREAMBED ALTERATION AGREEMENT. Please note that you may not proceed with your project until after your proposed project has been reviewed under CEQA and the Department signs the Agreement.

I, the undersigned, state that the above is the final description of the project I am submitting to the Department for CEQA review, leading to an Agreement. I understand that I will implement the above project conditions required by the Department as part of my project. I understand that I will not proceed with this project until the Department signs the Agreement. I also understand that the CEQA review may result in the addition of measures to the project to avoid, minimize, or compensate for significant environmental impacts:

Operator's Name (Print): [illegible]

Operator's Signature:

Signed the 30th day of MAY, 2001

STATE OF CALIFORNIA THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

DEPARTMENT OF FISH AND GAME
CENTRAL COAST REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA CALIFORNIA 94558

Date: 5/25/01
THIS FAX IS BEING SENT TO:
Dave Chesterman (408) 266-0271
Al Gurevich (408) 265-3450

FROM: Marcia Grefsrud, Environmental Specialist
FAX: (707)944-5595
Phone: (707)944-5559

Re: Application # R3-2000-0980

Dear Applicant,
This is a draft agreement that must be signed before we can issue you a permit.

Please
1. *Initial* all pages of the attached project conditions and *sign and date* the signature sheet. Your conditions have 6 pages. Make sure that the person indicated at the top of Page 1 of the conditions is the one who signs the signature sheet.
2. *Mail* all pages of the project description and conditions to the DFG Regional office at the *P.O. Box address*, *Attention: Marcia Grefsrud*
You may possibly expedite this process by a few days if you fax the project description and conditions to us at (707)944-5595, and then send the signed original by mail.

PLEASE NOTE THAT YOU MAY NOT BEGIN YOUR PROJECT UNTIL
1) THE DEPARTMENT RECEIVES YOUR SIGNED PROJECT DESCRIPTION AND CONDITIONS.
AND
2) YOU RECEIVE AN AGREEMENT SIGNED BY THE DEPARTMENT

Thank you!

STATE OF CALIFORNIA THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

DEPARTMENT OF FISH AND GAME
CENTRAL COAST REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE CALIFORNIA 94599
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7329 SILVERADO TRAIL
NAPA CALIFORNIA 94558

Notification Number: R3-2000-0982

Dave Chesterman / Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118

PROJECT DESCRIPTION and PROJECT CONDITIONS

26
DC

Description

The Santa Clara Valley Water District is proposing to establish shaded riverine aquatic cover vegetation and improve habitat in the lower reaches of Guadalupe Creek between Almaden Expressway and Masson Dam. The Guadalupe Creek Restoration Project is intended to provide SRA cover mitigation to offset environmental impacts associated with future Santa Clara Water District projects.

The proposed project will temporarily impact approximately 1.52 acres of waters of the United States, 1.1 acres of riparian scrub and forest, and 4,841 linear feet of stream channel. All work will be done according to the plans submitted to and on file with the Department of Fish and Game Yountville office.

Conditions

The agreement shall expire on December 31, 2002. Work within the stream channel shall be between June 1 and October 15 of each year. Construction may be extended on a day-to-day basis by contacting Department of Fish and Game Biologist Margaret Roper or the Yountville office at (707)944-5520.

If the Operator finds more time is needed to complete the authorized activity, the work period may be extended on a day-to-day basis by the local Department of Fish and Game representative who reviewed the project.

All work shall be done according to plans contained in the Guadalupe Creek Restoration Project, Summary of Proposed Construction and Maintenance Activities, Guadalupe River Flood Control Project, Biological Opinion and Essential Fish Habitat Conservation Recommendations (National Marine Fisheries Service, 8/11/00), Preconstruction Notification for the Guadalupe Creek Restoration Project (Jones & Stokes, 6/00) submitted to the Department of Fish and Game.

The operator shall notify the Department in writing of any modifications made to the project plans. Project modifications may require an amendment or a new application. Project modifications or mitigation plans shall be sent to:

Streambed Alteration Agreement R3-2000-0982
Department of Fish and Game
P.O. Box 47
Yountville, California 94599

Final construction plans shall be submitted to the Department prior to construction.

Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur. All soil/fill stockpiles shall be located above the elevation of the three (3)-year floodplain.

Storage areas for equipment, materials, fuels, lubricants, solvents, and other possible contaminants shall be located at least 100 feet away from the top of bank of the creek, and above the elevation of the three (3)-year floodplain. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

Ab
JC

Refueling and lubrication of equipment shall occur at storage areas, located as described in #12 above. During refueling and lubrication, a containment structure shall be placed under the area to contain spills or leakage.

Any accidental spill or leak that occurs outside of a containment structure shall be cleaned up the day it occurs by removing the spilled or leaked material and any ancillary material (e.g. soil, etc.) it has come in contact with.

Soils with a mercury concentration to or greater than 20 mg/kg (or 20 parts per million) shall be disposed of at a appropriately licensed Class 1 Landfill. Soils with a mercury concentration of less than 20 mg/kg (20 parts per million) may be reused onsite or disposed of at an appropriate landfill. If the soil is reused onsite, it shall be placed in areas where exposure to overbank flow is not expected, either above the water surface elevation of the three-year recurrence interval or as backfill away from the channel.

Soil material excavated onsite and reused to augment planting locations shall be stockpiles and tested separately from other excavated material.

All imported fill material shall be free of hazardous materials and debris.

All bank and instream habitat structures shall be constructed as described.

Woody material imported for use in bank stabilization structures shall not be from species known to have allelopathic properties (e.g. eucalyptus).

When work in a flowing stream is unavoidable, the entire streamflow shall be diverted around the work area. Water shall be diverted from the stream at Masson Dam and into the adjacent Los Capitancillos percolation pond system. Flows shall be ramped down at a rate of 0.5 cubic feet per second (cfs) per day, no earlier than 8:00am each day, until the stream channel is dry.

Any isolated seepage or recharge creating isolated wetted areas in the project area shall be dewatered using a pump with a screened (0.5-inch mesh) intake. Pumped water shall be desilted to less than ten (10) NTU's and discharged into the adjacent Los Capitancillos percolation ponds or to Guadalupe Creek downstream of the project area.

To compensate for the loss of stream flow to Guadalupe River, water may be discharged the same rate of the reduced or eliminated flow at one or both of the following locations:

a) Alamitos Creek turn out, approximately three-quarters of a mile upstream of Alamitos drop structure.

b) Through the overflow of Alamitos percolation pond, immediately downstream of Alamitos drop structure fish ladder, adjacent to SCVWD Headquarters.

AG
DC

Fish capture and relocation activities shall be conducted as described in the ~~Summary of Proposed Construction and Maintenance Activites, with the exception that all native fish shall be relocated to reaches of Guadalupe Creek upstream of the project area or Alamitos Creek only.~~ Guadalupe Creek Restoration Project Construction - Area Dewatering and Fish Holding / Relocation Plan.

Warm water native species shall be relocate to reaches of the Guadalupe Creek upstream of the project or Alamitos Creek only

A summary of fish rescued and a copy of data collected shall be submitted to the Departmentvia e-mail to sglushkoff@dfg.ca.gov , no later than two months after the fish rescue effort.

Upon completion of the project, diverted water shall be reintroduced to the restored channel, ramping up flows at a rate of 0.5 cfs per day until natural flow levels are restored to the channel.

Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Construction fencing shall be installed around all existing vegetation that is to remain in the project area. Fencing shall be maintained and repaired, if necessary, during the course of the project. At the completion of the project all fencing and associated material shall be removed from the project site.

Restoration shall include the revegetation of stripped or exposed areas. All planting shall be done between October 15 and January 15 to take advantage of the winter rainy season.

Revegetation and replacement plantings shall consist of locally obtained, native species.

Revegetation monitoring shall be conducted according to the methods described in Section 4.2 (Riparian Vegetation, pages 4-14 to 4-25) and Section 4.3 (Shaded Riverine Aquatic Cover, pages 4-25 to 4-43) of the Final General Re-Evaluation and Environmental Report for Proposed Project Modification, Guadalupe River Project Downtown San Jose, California, Volume 2B, dated February 2001.

An annual monitoring report shall be submitted to the Department Biologist, Margaret Roper. (P.O. Box 1727 Gilroy, California 95021) for the duration of mitigation monitoring no later than March 31 of the following year after fall monitoring.

Herbicide application for vegetation control shall occur three (3) days or more before predicted rainfall.

Rock, riprap, or other erosion protection shall be placed in areas where vegetation cannot reasonably be expected to become reestablished.

Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter waters of the State. At no time shall silt laden runoff be allowed to enter the stream or be placed where it may enter the stream.

No equipment will be operated in live stream channels.

Wash water containing mud or silt from aggregate washing or other operations shall not be allowed to enter a lake or flowing stream.

Silty/turbid water from the excavation and/or project activities shall not be discharged into the stream, lake, or into storm drains. Such water shall be pumped into holding facility or into a settling pond located in flat stable areas outside of the stream channel, or sprayed over a large area outside the stream channel or lake to allow for natural filtration of sediments. At no time shall turbid water from the settling ponds be allowed to enter back into the stream channel until water is clear of silt. Stream turbidity adjacent to and immediately downstream of the project site shall not exceed 50 NTU's above background levels, as measured no more than 100 feet upstream of the upstream project boundary.

JC

If a stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area.

Prior to project construction , a survey shall be conducted by a qualified biologist for nesting raptors. If raptors are nesting, there shall be no impacts to habitat within 300 feet of the raptor nests trees during the nesting season. The survey results shall be reported in writing to the Department.

The project site has been identified as an area that is potentially inhabited by the threatened Central California Coast evolutionary significant unit of steelhead. The Operator shall comply with the Guadalupe River Flood Control Project. Biological Opinion, and Essential Fish Habitat Conservation Recommendations, issues by the National Marine Fisheries Service and dated August 11, 2000.

The project site has been identified as an area that is potentially inhabited by a threatened species. California red-legged frog. The operator is required to comply with all applicable state and federal laws, including the California and Federal Endangered Species Acts. This agreement does not authorize the take of any state or federally listed species.

The operator will notify the Department of Fish and Game of the date of commencement of operations and the date of completion of operations at least five days prior to such completion.

If the Operator would like to renew the agreement beyond the expiration date, a written request for a renewal must be submitted to the Department (1600 Program, Post Office Box 47, Yountville, California 94599) for consideration at least 30 days before the agreement expiration date. A renewal constitutes an amendment to the original agreement and requires a fee of $127.25. Renewals of the original agreement are issued at the discretion of the Department.

The Operator shall notify the Department before any modifications are made in the project plans submitted to the Department. Project modifications may require an amendment or a new notification.

This agreement is transferable to subsequent owners of the project property by requesting an amendment.

A copy of this agreement must be provided to the Contractor and all subcontractors who work within the stream zone and must be in their possession at the work site.

Building materials and/or construction equipment shall not be stockpiled or stored where they could be washed into the water or where they will cover aquatic or riparian vegetation.

Debris, soil, silt, bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake, by Operator or any party working under contract, or with the permission of the Operator, shall be removed immediately.

During construction, the contractor shall not dump any litter or construction debris with in the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

If, in the opinion of the Department, conditions arise, or change, in such a manner as to be considered deleterious to the stream or wildlife, operations shall cease until corrective measures approved by the Department are taken.

Department personnel or its agents may inspect the work site at any time.

YOUR SIGNATURE BELOW DOES NOT ALONE CONSTITUTE A COMPLETED STREAMBED ALTERATION AGREEMENT. Please note that you may not proceed with your project until after your proposed project has been reviewed under CEQA and the Department signs the Agreement.

I, the undersigned, state that the above is the final description of the project I am submitting to the Department for CEQA review, leading to an Agreement. I understand that I will implement the above project conditions required by the Department as part of my project. I understand that I will not proceed with this project until the Department signs the Agreement. I also understand that the CEQA review may result in the addition of measures to the project to avoid, minimize, or compensate for significant environmental impacts:

Operator's Name (Print): [illegible]

Operator's Signature:

Signed the 30th day of MAY, 2001

Attachment 6 to Order 01-036
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR
ORDER NO. 01-036

SANTA CLARA VALLEY WATER DISTRICT
U. S. ARMY CORPS OF ENGINEERS

GUADALUPE RIVER PROJECT
and
GUADALUPE CREEK RESTORATION PROJECT

SAN JOSE, SANTA CLARA COUNTY

I. General

A. Basis:

Reporting responsibilities of the Dischargers and as "waste dischargers" are specified in Sections 13225(a), 13267(b), 13268, 13883, 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

B. Purpose:

The principal purposes of a monitoring program by a discharger, also referred to as a Self-Monitoring Program (SMP), are to document compliance with effluent requirements and prohibitions established by this Board; facilitate self-policing by the discharger in the prevention and abatement of pollution arising from improper effluent; to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

C. Sampling and Methods

Sample collection, storage and analysis shall be performed according to 40 CFR, Section 136, or other methods approved by the Executive Officer.

Water analyses conducted on samples collected for laboratory analysis shall be performed by a laboratory approved by the Department of Health Services (DHS) or a laboratory approved by the Executive Officer.

All monitoring instruments and equipment, including instruments and equipment used in field sampling and analysis, shall be properly calibrated and maintained to ensure accuracy of measurements.

Routine sampling shall follow Quality Assurance/ Quality Control procedures including the use of field, equipment and laboratory blanks and laboratory surrogate samples.

All Quality Assurance/Quality Control measures and results shall be reported along with the data.

II. DEFINITION OF TERMS

Grab Sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. They are to be used primarily in determining compliance with receiving water limits. Grab samples only represent the condition that exists at the time the water and effluent are collected.

100 feet from the point of discharge is defined as 100 feet downstream of the point at which water diverted around an area of construction is discharged into a water of the State or 100 feet downstream of the point at which water is reintroduced into the stream following construction completion.

Duly Authorized Representative is one whose:

a. authorization is made in writing by a principal executive officer, or

b. authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity (e.g., field supervisor, project manager, chief engineer).

III. SPECIFICATIONS FOR SAMPLING AND ANALYSES

This monitoring plan includes the following components: (1) Monitoring associated with discharges from diversion and dewatering operations, (2) Monitoring associated with evaluating Mitigation Plan Success, (3) Monitoring associated with mercury releases.

o Monitoring Associated With Discharges from Diversion and Dewatering Operations

The Dischargers are required to perform sampling and analyses as found in accordance with the following conditions and requirements:

A. Receiving Waters

1. Diverted water discharge sampling shall be conducted on the first two days of the commencement of diversion, one week later, and monthly thereafter. Frequency shall be increased to daily if visual observations indicate that the discharge is resulting in obviously increased turbidity.

2. Reintroduced flow discharge sampling shall be conducted daily for 2 days upon commencement of discharge.

3. Prior to start of diversion or reintroduction of flow, background water samples shall be collected from 100 feet from the point of discharge. Samples must be representative of typical undisturbed conditions. In addition, the Dischargers may collect background samples on a daily basis a minimum of 500 feet upstream of the active site. Background data generated by analyses of samples collected daily will be valid for discharges occuring in the same day.

4. Receiving water samples shall be collected, at least two samples within every 24-hour period, evenly spaced during the work hours each day. The location of each sampling site shall be 100 feet from the point of discharge. These samples shall be immediately analyzed on site for the following constituents:

Constituents	Type of sample	Units
Turbidity	Grab	NTUs
PH	Grab	Not Applicable
Dissolved Oxygen	Grab	mg/l

5. Samples shall be taken at least one foot below the surface of the water body when possible.

6. Duplicate samples shall be collected a minimum of once per month, with one set of samples analyzed on site and one set of samples sent to a laboratory for analysis of the same constituents analyzed for on site.

7. If analytical results for constituents analyzed on-site show that any grab sample exceeds any receiving water limit, confirmation samples shall be taken within two hours and every subsequent two hours, and analyzed for all constituents for which on-site analysis is required. Sampling at this higher frequency shall continue until the exceedance has been corrected.

8. If any receiving water limit for a constituent or constituents is exceeded, then the Dischargers shall follow the following process to address the exceedance:

   a. Identify source of exceedance;

   b. Correct source of exceedance;

   c. Resample to determine whether exceedance has been corrected.

9. If any receiving water limit for a constituent or constituents is exceeded for a 12 hour period, then the Dischargers shall immediately notify the Board by telephone and telefax of the exceedance and of how they are correcting or will correct the exceedance.

10. If any receiving water limit for a constituent or constituents is exceeded for a 24 hour period, then a violation shall have occurred. The discharge that is causing the violation shall be terminated until corrective action is taken and sampling demonstrates that the exceedance has been corrected or when the Dischargers have provided the Board with a corrective action plan, acceptable to the Executive Officer, that provides alternative methods of compliance.

11. For other violations, the Dischargers shall notify the Board immediately whenever violations are detected and discharge shall not resume until the Dischargers have provided the Board with a corrective action plan, acceptable to the Executive Officer, that provides alternative methods of compliance.

12. It is expected that the placement of fill material for coffer dams may result in the unavoidable exceedance of instantaneous maximum limits. Therefore, as long as BMPs have been implemented to minimize sediment discharge, corrective action shall not be required for exceedances that occur within eight hours of the initial placement and removal of fill material for coffer dams.

B. Standard Observations

The following observations shall be recorded on every day of operation:

1. Receiving Water:

   a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source and size of affected area.

   b. Discoloration and turbidity: description of color, source and size of affected area.

   c. Odor: presence or absence, characterization, source, distance of travel and wind direction.

d. Hydrographic condition including: time and height of corrected low and high tides; and depth of water columns and sampling depths.

e. Weather condition including: air temperatures, wind direction and velocity and precipitation.

2. Decant Water: Evidence of decant water discharge from excavated material stockpile and storage area to any drainage.

3. Progress and location of diversion or reintroduction of flow, noted on a map of the site.

C. Records to be Maintained

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the Dischargers and accessible at all times. Records shall be kept for a minimum of three years. Records shall include notes and observations for each sample as follows:

   a. Identity of each sampling and observation station by number

   b. Date and time of sampling

   c. Date and time analyses are started and completed and the name of person conducting analyses

   d. Complete procedure used, including method of preserving or analyzing sample and identity and volumes or reagents used. A reference to a specific section of Standard Methods is satisfactory.

   e. Calculations of results.

   f. Results of analyses and/or observations, including a comparison of the laboratory and field results for duplicate samples.

2. Records shall include a map or maps of the site showing the location of sediment sampling locations, coffer dams, discharge pipes, access ramps, etc.

3. If any receiving water limit for a constituent or constituents is exceeded, or a violation of the permit occurs, then the Dischargers shall maintain a tabulation during the period the exceedance occurs showing the following flow data for effluent stations and for the reach to be desilted:

   a. Total flow or volume on a daily basis.

   b. Maximum and minimum flows for each month, if applicable.

o **Monitoring Associated With Evaluating Mitigation Plan Success**

The type, location, frequency, and time of initiation of monitoring shall be as described in the Dischargers' Mitigation and Monitoring Plan (MMP), as summarized in Table 4-2 of the MMP and attached to this SMP as Attachment 1, and in Table 4-18 of the MMP and attached to this SMP as Attachment 2.

o **Monitoring Associated With Mercury Releases**

With respect to mercury monitoring elements of the SMP, the Dischargers shall comply with the following:

1. Stations for Chemical Sampling: Establish eight stations within the Guadalupe Creek Restoration Project reaches, four stations upstream of the Restoration Project, and two stations in the Guadalupe River between Trimble Road and Montague Expressway. At least one station shall be immediately behind Masson Dam. The specific sites shall be selected in pools, vegetated areas or zones of sediment deposition where conditions favorable to methylation are likely. The Dischargers shall submit a map showing sampling locations with each monitoring report.
2. Parameters: Parameters to be monitored shall include: total (unfiltered) mercury in water, sediment and porewater; dissolved (filtered) mercury in porewater; total (unfiltered) methylmercury in water, sediment, and porewater, dissolved (filtered) methylmercury in water and porewater; flow and Total Suspended Solids.
3. Frequency: Quarterly for chemical parameters, continuously for flow, and continuously for Total Suspended Solids.
4. The Dischargers shall establish a continuous monitoring program for flow and Total Suspended Solids, and develop calibration data to calculate total mercury loads based on continuous flow and suspended solids data.

IV. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Report of Permit Violations

In the event that this permit is violated, the Dischargers shall notify the Board by telephone immediately and shall notify the Board in writing within seven calendar days. A written report shall include time and date of incident, duration and estimated volume of discharge or bypass. The report shall include a detailed discussion of the reasons for the non-compliance and what steps were or will be taken to correct the failure and prevent it from occurring again.

B. Self-Monitoring Reports

1. During construction operations, written reports shall be filed regularly for each calendar month that water diversions, reintroduction of flow, or discharges of decant water from excavated material stockpiles and storage areas occur, and filed no later than the fifteenth of each month. The reports shall include the following:

   a. A transmittal letter which includes identification of changes to the project design and any unplanned releases or failures that have occurred since the last reporting period.

   b. A monitoring report which details: the magnitude of the releases or failures; any discharge limit exceedances; dates of all exceedances; cause of the failures, releases or other violations; any corrective actions taken or planned; and the schedule for completion of corrective action.

   c. Reports and the letter transmitting reports shall be signed by a principal executive officer(s) of one or both of the Dischargers or by duly authorized representatives of those persons.

2. **Mitigation Monitoring Program:** By March 31 of each year, the Dischargers shall submit a technical report, acceptable to the Executive Officer, containing an analysis of results of mitigation monitoring program for the previous year.

3. **Mitigation Success Status Report:** By June 30 of each year, the Dischargers shall submit a technical report, acceptable to the Executive Officer, containing the results of an assessment of mitigation program monitoring results, and recommendations for monitoring program modification or corrective measure implementation, if appropriate. It is anticipated, as described in the Dischargers' MMPs, that the assessments and corrective measure proposal will be the product of the Adaptive Management Team.

4. **Mercury Monitoring:** By June 30 of each year, the Dischargers shall submit a technical report, acceptable to the Executive Officer, containing the results of the previous year's sampling and monitoring for mercury.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing Self--Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16, in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 01-036.

2. Was adopted by the Board on March 21, 2001.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Dischargers, and revisions will be ordered by the Executive Officer or Board.

Loretta K. Barsamian
Executive Officer

Attachments:

1. Table 4-2 of Mitigation and Monitoring Plan: " Monitoring of Indicators for Ecological Functions and Habitat Values Required to Assess Mitigation Success for the Guadalupe River Project"
2. Table 4-18 of Mitigation and Monitoring Plan : "Schedule of Monitoring Activities and Achievement Dates for Measurable Objectives"

APPENDIX I

- Guadalupe Creek Restoration Project Final Inspection and Adaptive Management Recommendation Report

Memorandum

Date: 6 March 2002

To: Al Gurevich

Company/Agency: Santa Clara Valley Water District

From: Kevin MacKay, Jones & Stokes; Ed Wallace, nhc

Subject: Construction Completion

Project No: 50249

Project Name: Guadalupe Creek Restoration Project

The Guadalupe Creek Restoration Project was designed by Jones & Stokes (J&S) and Northwest Hydraulic Consultants (nhc) for the Santa Clara Valley Water District (District). The primary objective of the project was to restore shaded riverine aquatic cover vegetation and improve aquatic habitat for anadromous fish. The project goals and objectives, project area background, analysis of existing conditions, design criteria, development and analysis of alternatives, and the recommended project are fully described in the Engineer's Report and environmental document prepared by J&S and nhc in November 2000 (Santa Clara Valley Water District, 2000). Final plans and specifications were produced by J&S and nhc in April 2001, and the District awarded a construction contract to Ferma Corporation in June 2001.

During project construction, the District administered the construction contract and inspected the work as it proceeded to ensure compliance with the plans and specifications. J&S and nhc were retained by the District to provide additional services during the construction period. The primary objectives of these services included: assisting the District in interpreting the plans and specifications and making necessary adjustments relative to specific field conditions; ensuring that the design intent was clearly communicated to field inspection and construction personnel; and, providing continuity between the design and construction phases of the project. Both J&S and nhc have been on site several times during the construction period and have documented observations and recommendations in site observation reports provided to the District. These observations have been used by the District to direct the contractor's activities.

It was anticipated by the design team that field adjustments to the plans and specifications would be required to respond to specific field conditions encountered during construction. These adjustments are necessary to respond to differences in soils conditions as they are encountered during excavation, to account for variations in slopes and other topographic features in locations where typical project features are to be installed, to protect existing vegetation, and to provide operational flexibility to the contractor (where consistent with project objectives). Ferma has therefore constructed the project with minor variations from the plans and specifications under the direction and observation of the District. However, no significant changes have been made during the construction period to the project design. Considering the scale of the project and the relatively short time period during which it was designed and constructed, the implementation of the project is remarkably consistent with the elements described in the Engineer's Report.

All major grading and planting work on the project is now complete and the District has prepared a final construction punch list for Ferma. The punch list is partially based on a site review conducted by J&S and nhc with District personnel on February 19, 2002. Specific notes on project elements have been provided separately by J&S and nhc to the District for use in administering the final steps of the construction contract. Based on our field review and discussion with District personnel, construction of the project is now substantially complete.

J&S and nhc will provide an additional memorandum to the District regarding maintenance and management of the project area. Because of the nature of the project, changes in the creek channel, constructed features, and vegetation are expected to occur over time. These changes are associated with natural fluvial and ecological processes and are a normal and desirable characteristic of the project. Monitoring and adaptive management of these changes is an effective method of achieving the project's primary objective of improving shaded riverine aquatic vegetation cover and aquatic habitat. Because maintenance of the plantings for three years is included as part of the construction contract, our memo will focus on maintenance methods for observation of constructed project features, indicators of desirable and undesirable changes in the project area, and maintenance and management activities that may be required and/or desirable. Preparation of this memorandum will conclude our services during the construction phase. However, we remain very interested in the project area and its evolution over time, and would be pleased to provide the District with additional services during the maintenance period.

References

Santa Clara Valley Water District, 2000. Guadalupe Creek Restoration Project from Almaden Expressway to Masson Dam, San Jose, California. Engineer's Report and Draft Environmental Impact Statement and Environmental Impact Report. Santa Clara Valley Water District and U.S. Army Corps of Engineers, prepared by Jones & Stokes Associates, November 22, 2000. San Jose, California.